418-15.

# IRON ROOFS ^^THAT ^^ RESIST RUST





# IRON ROOFS THAT RESIST RUST



Roofing Iron Shingles

Terne Plate

Siding Fauna Transal

Eaves Troughs

Gutters

#### The American Rolling Mill Company

MIDDLETOWN, OHIO

Licensed Manufacturers under Patents granted The International Metal Products Company

#### DISTRICT SALES OFFICES

Chicago: 1266 People's Gas Bldg. New York: 551 Hudson Terminal Bldg.

Pittsburgh: 1832 Oliver Bldg. Cleveland: 952 Rockefeller Bldg.

Detroit: 901 Ford Bldg. Cincinnati: 2101 Union Central Bldg.

St. Louis: 814 New Bank of Commerce Bldg.

The trade-mark ARMCO carries the assurance that iron bearing that mark is manufactured by The American Rolling Mill Co. with the skill, intelligence and fidelity associated with its products, and, hence, can be depended upon to possess in the highest degree any merit claimed for it. It has behind it the guarantee of that company concerning the purity of the iron and the accuracy and thoroughness with which each step in its manufacture has been conducted.

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## WHY IRON ROOFS RESIST RUST

THE fire and lightning hazards have brought about the use of roofs of metal. In the country fire protection practically does not exist and every precaution must be taken against sparks from a neighbor's burning building, a chimney fire, a stroke of lightning, etc.

But farmers, ranchers, manufacturers and all property owners have paid high for such protection, for their metal roofs have been rapidly eaten up by rust. Galvanizing, of course, somewhat delayed

this, but a few years saw the end and a new roof was needed.

Rust has cost the property owners of the country thousands upon

thousands of dollars yearly.

Ever since the way was found to make steel cheaply, the rust tax has been laid upon hundreds of farms and homes. And the pity of it is that it cannot be avoided as long as steel is used for roofing.

This is the reason.

Steel Must Rust makes it steel—gives it the tensile strength for the frame of a skyscraper or the hardness for a workman's tool.

But for a roof, where resistance to rust is the main requirement, steel is a mistake. The very impurities that make steel steel—carbon,

manganese, etc.—are the direct cause of its rusting. Scientists have discovered this all-important fact within the last few years.

For twenty-eight centuries an iron pillar has stood in Delhi, India. Today it shows no damaging effects of its long exposure to the elements. Over one hundred years ago a bridge supported by iron chains was built at Newburyport, Mass. When this bridge was replaced by a larger one in 1910, the links of those chains showed little rust although they had not been protected by paint.

On your own buildings you will find similar evidence. Compare the hand-wrought nails of your grandfather's time with the steel wire nail of today. A few years, and the latter are eaten away with rust.

You've seen the old-fashioned tin roofs that have lasted for seventy years or more. On page 8 is a picture of Abraham Lincoln's old home at Springfield, Ill. Its roof—a tin-coated iron roof—is perfect today after sixty years.

Chemists set to work to find out what kind of metal was in this rust-resisting pillar, in these chains and beneath the tin coating of

that roof.

#### ROOFS RESIST RUST IRON WHY

Analysis showed it was nearly PURE IRON.

Therein lay the secret of the

rust-resisting quality.

One more question Galvanizing had to be answered— Cannot Protect "Why does steel rust Steel Against Rust. even when galvanized,

for pure zinc will not rust?"

It was found that steel rusted because of the impurities in it. When steel was dipped into the galzanizing bath these impurities caused the steel to dissolve rapidly in the zinc spelter.

The consequence was that the spelter next to the steel sheet

carried considerable quantities of a mixture or alloy of iron and zinc. This is very brittle and breaks away from the steel when the sheet is bent or formed. You've often noticed how galvanizing chips off. This is one of the reasons. This alloy also makes a very inferior coating in its ability to resist weather conditions.

As soon as portions of the steel are exposed to air and moisture through the chipping or dissolving away of the coating, the impurities in the steel start to destroy the surrounding areas of zinc. Ruin of

the whole roof soon comes about.

You've seen this no doubt on your own roofs. First a pitting on the surface, then here and there areas of rust that gradually ate their

way through.

It was found that pure iron did not act this way. It dissolved very slightly in the zinc; therefore this zinc coating was purer and lasted longer, and the iron being pure did not have so great a tendency to rust even without the coating of zinc.



With these facts established, the way to a long life roofing was opened. After many experiments, a way was found to make pure iron cheaply enough to compete with steel. Armco Iron, or American Ingot Iron as it is often called, is the commercial name

of pure iron.

Starting with higher grade raw materials than those of which steel is made, we work much further toward absolute purity than the steel men do. Instead of adding carbon, manganese, etc., to partially purified pig iron, we take all-or nearly all—the impurities out. Our



#### WHY IRON ROOFS RESIST RUST

whole process is one of eliminating impurities to the greatest possible extent. We developed the method until we could guarantee that Armco (American Ingot) Iron would always contain at least 99-84/100

per cent pure iron.

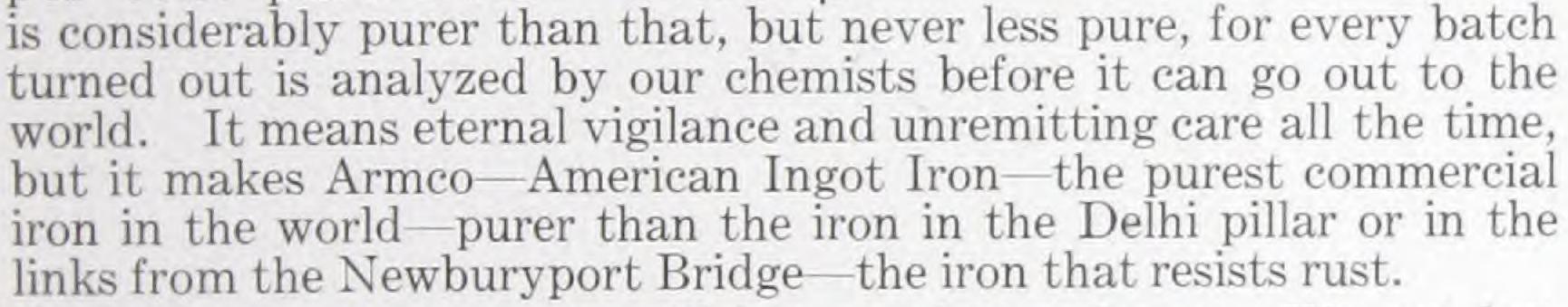
The Rust-resisting
Quality of Pure
Iron Makes It the
Most Economical
Roofing.

Armco, or American Ingot Iron, will never replace steel in everything. Steel is of inestimable service. We could not get

along without it, but it has no place in roofing, for it cannot resist rust.

The only economical roof is one of pure iron. It resists rust because it is pure. If it were possible to make it 100 per cent pure for commercial use, we might say it would be rustless.

But the purest iron it is possible to make is Armco Iron and that is guaranteed to be at least 99-84/100 per cent pure iron. Often it



How long Armco Iron will last we do not know. We can but judge from these age-old examples that have come down to us. They seem to tell us that an Armco Iron roof will last as long as the building

it protects.

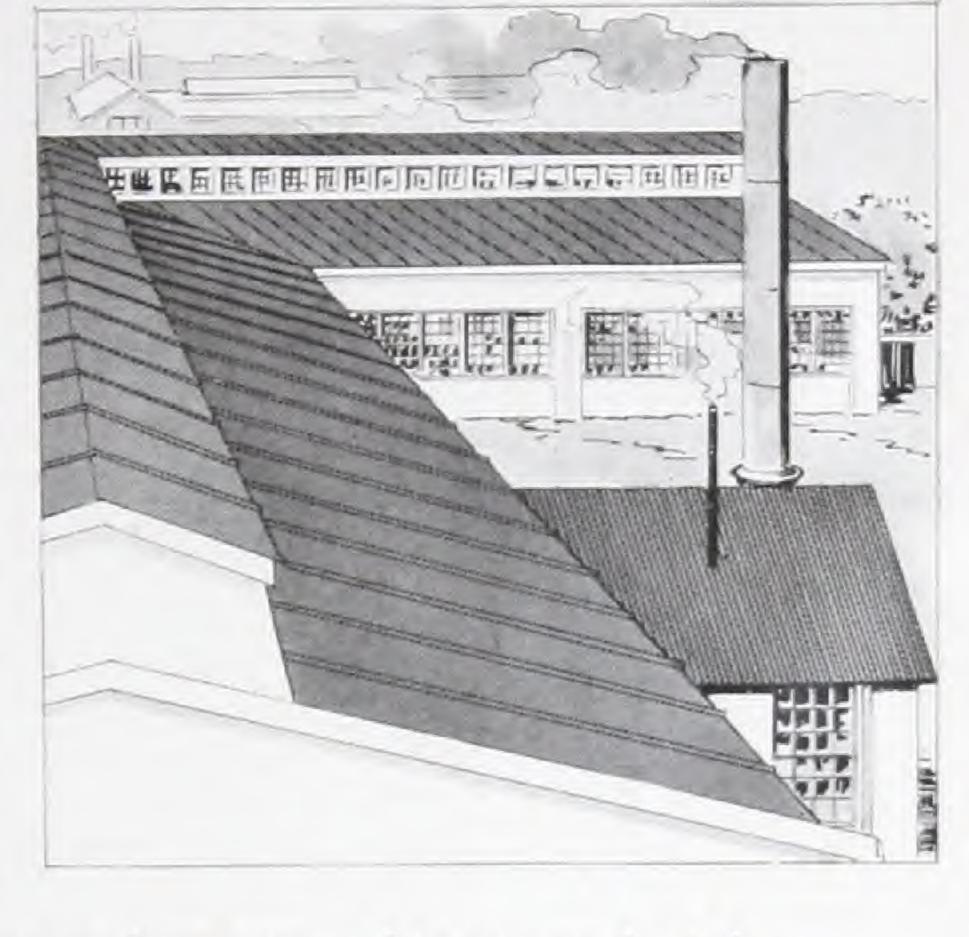
And that is why an Armco roof is the most economical one. It gives the same protection against fire and lightning as does the steel roofing, but it will outlive the steel roof many times. On page 6 we show an illustration which may help you to decide how much longer Armco Iron will outlive steel. We might show many such illustrations, but now that you know why steel rusts rapidly and why pure iron resists rust, one illustration is as good as a score.

Steel for Roofing in the 50's—a way was found to make steel cheaply. Sheet steel roofs were the result, but this use of steel was a mistake.

Property owners all over the country have been paying for that mistake. They knew that metal roofs did not last, but why no one knew until the rust-resisting quality of pure iron was discovered. Now that pure iron in the form of Armco-American Ingot Iron has come to limit steel to its proper uses, no man need pay the yearly tax that a steel roof puts upon his buildings.

"Iron Roofs that Resist Rust" are roofs of Armco-American Ingot

Iron.





Test of Durability Illustration of Central Delivery Co's Shed, where Armco Iron Roof and Steel Siding n

#### Armco Iron Old Style Terne Plate Roofing

(Tin Roofing)

"Armco Palm Oil Government Plate" "Armco Old Style"

Forty to sixty years ago, tin roofs were almost universally used. Some are still in existence and in as good condition now as when laid.

Then came the cheapening of the process of making steel—a metal that could not resist rust. Tin made with a core of steel could not last.

The old-fashioned tin lasted because the base was almost pure iron coated most carefully with the proper mixture of lead and tin. The coating was not contaminated by impurities dissolved during its application.

The old-fashioned iron did not have the impurities to hasten the dissolving out of the iron, hence the coating of tin was very pure.

A sheet of tin to be durable requires three things: A pure iron core or base; coatings of pure tin and lead; the proper method and greatest care in applying the coating.

Armco Tin Roofing is made under these ideal conditions.

Armco Iron is even purer than old-fashioned iron. Hence its lead and tin coating is purer, and lasts longer.

Each plate is worked in hot palm oil for 15 to 20 minutes before being tinned for 15 minutes in a mixture of 70 per cent pure lead and 30 per cent pure tin.

A second and third tinning bath are used and finished in a bath of palm oil. They are then cleaned with sawdust. No acid touches the plates and a durable coating is assured.

Great care is used in the way the pure tin and lead are mixed. Men who have devoted their lives to tinning—who received their early training from their fathers in Great Britain—are in charge of the coating of Armco Iron.

Armco Iron Terne Plate is the acme of perfection and durability for tin roofs.

Armco Palm Oil Government Plate Tin has the weight of coating stamped on each sheet together with the Armco trade-mark.

Armco Old Style Tin is made with the same pure base and mixture of coating, but the coating is lighter. It is guaranteed to be equal in durability to any plate made by any other manufacturer, irrespective of the base metal or weight of coating.

#### The United States Government Approves

For years the U. S. Government had been specifying and accepting only Genuine Charcoal Iron Terne Plates for its best and most particular work.



The introduction of Armco Iron Ternes—ARMCO PALM OIL GOVERNMENT PLATES—and their great durability, was immediately recognized by the Government, and the specifications changed to admit this product.

At last, a genuine pure iron plate, coated by the old style PURE PALM OIL PROCESS, the softest, most workable plate made, is procurable.

Here's the way the United States Government Specifications read:

"TIN WORK—All tin shall be as set forth in the following guaranty which must be certified before a Notary Public or other officer duly qualified to perform such duties, and forwarded to the Supervising Architect (in duplicate) as hereinbefore specified.

#### IRON ROOFS THAT RESIST RUST

"I hereby certify to my own knowledge bearing brandand submit	
taining not more than .02 per cent of manganes that the sheets have been thoroughly cleansed removed, and the sheets evenly and perfectly coprocess with a coating composed of 25 per cent of lead, and weighing not less than 40 pounds to 20 by 28 inches.	lack iron sheets con- se, sulphur or carbon; and all traces of acid bated by the palm-oil of tin and 75 per cent
	(Manufacturers)
Sworn to before me thisday of	
	Notary Public)

"Each sheet shall be stamped with the name and brand of the maker.

"Tin must not be scratched in any manner.

"Acid Flux must not be used in any connection with soldering.

"All seams must be single locked at least one-half inch, hammered flat and soaked with solder.

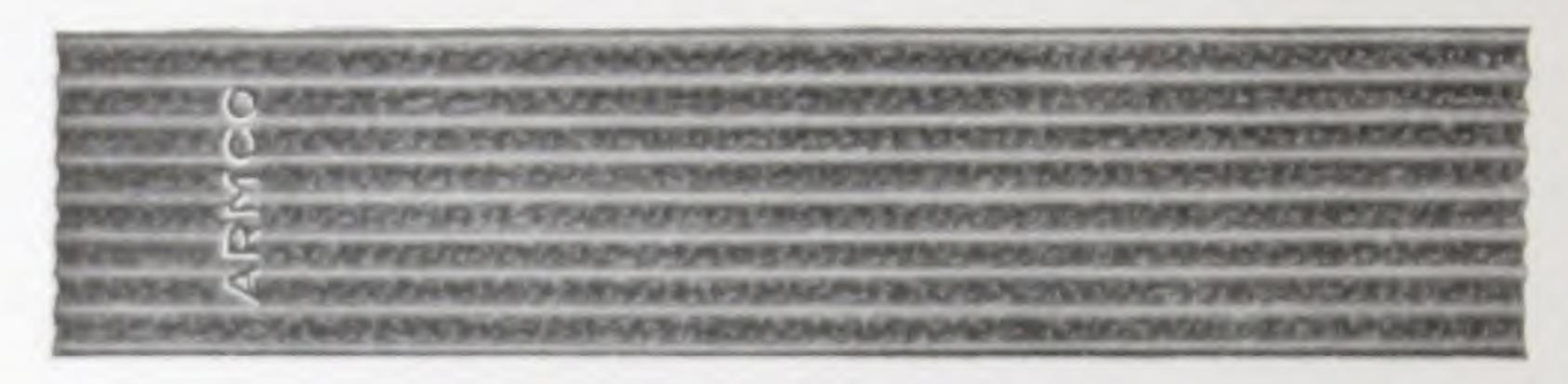
"There shall be at least three one and one-half-inch cleats to each sheet, not more than 10 inches apart. The roof ends of all cleats shall be folded after being fixed.

"The metal must be turned up against vertical surfaces and counterflashed, as the building of metal work into masonry will not be permitted."

#### Corrugated Armco Iron Sheets

Black

Painted For Roofs, Siding, Ceilings, etc. Galvanized



Shows 2 1/2-inch Corrugated Iron.

Corrugated sheets are light and stiff and, being made of Armco Iron, are non-corroding and rust-resisting, with a guaranteed analysis of 99.84 per cent pure iron.

We carry in stock all even gauges from 28 to 18, although No. 28 is the standard.

We also carry several sizes of corrugations, as shown by the illustrations.



Illustrating Use of Lead Washers.

#### 2 1-2-Inch Corrugated Armco Iron

Black, Painted or Galvanized

Regular stock sheets are 26 inches wide, and can be furnished in 5, 6, 7, 7½, 8, 9 and 10-foot lengths, and from No. 28 to No. 18 gauge.

Can also be furnished in  $27\frac{1}{2}$ -inch and 30-inch widths with 3-inch corrugation if desired.

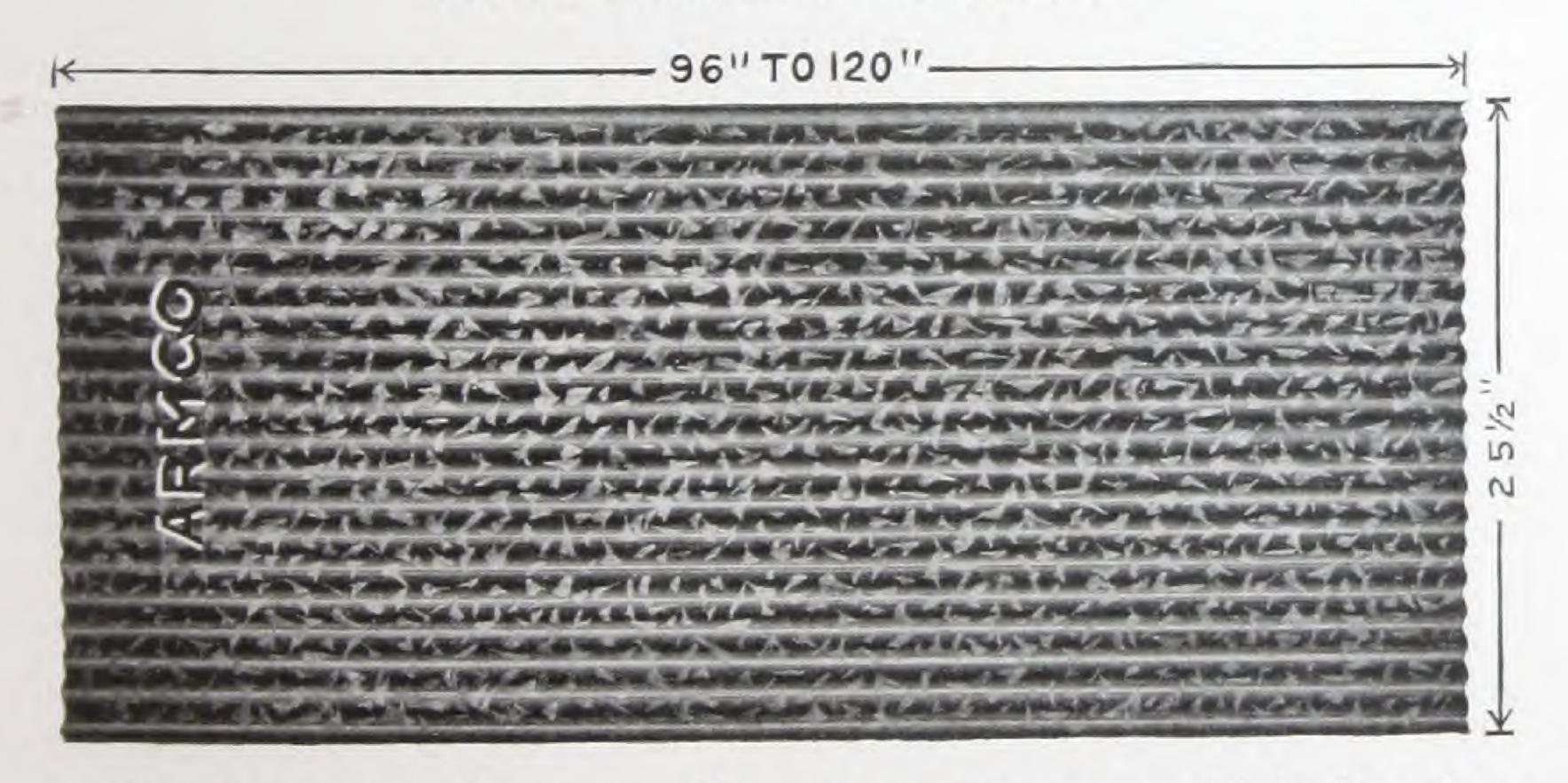
This size of corrugated sheets is especially adapted for exterior siding and roofing. It is used on buildings that are sheathed, or it can be applied direct to studding. Studding 2x4 inches will usually answer, placed 24 inches from center to center, for No. 28 or No. 26 gauge iron.

Our regular stock sheets of No. 28 gauge are 26 inches wide from out to out, and cover 24 inches when given one corrugation lap on side.

We can furnish sheets 12 feet long of No. 28 gauge at 10 cents per square additional, thereby often saving lappage and labor.

#### 1 1-4-Inch Corrugated Armco Iron

Corrugations 5-16-Inch Deep Black, Painted or Galvanized

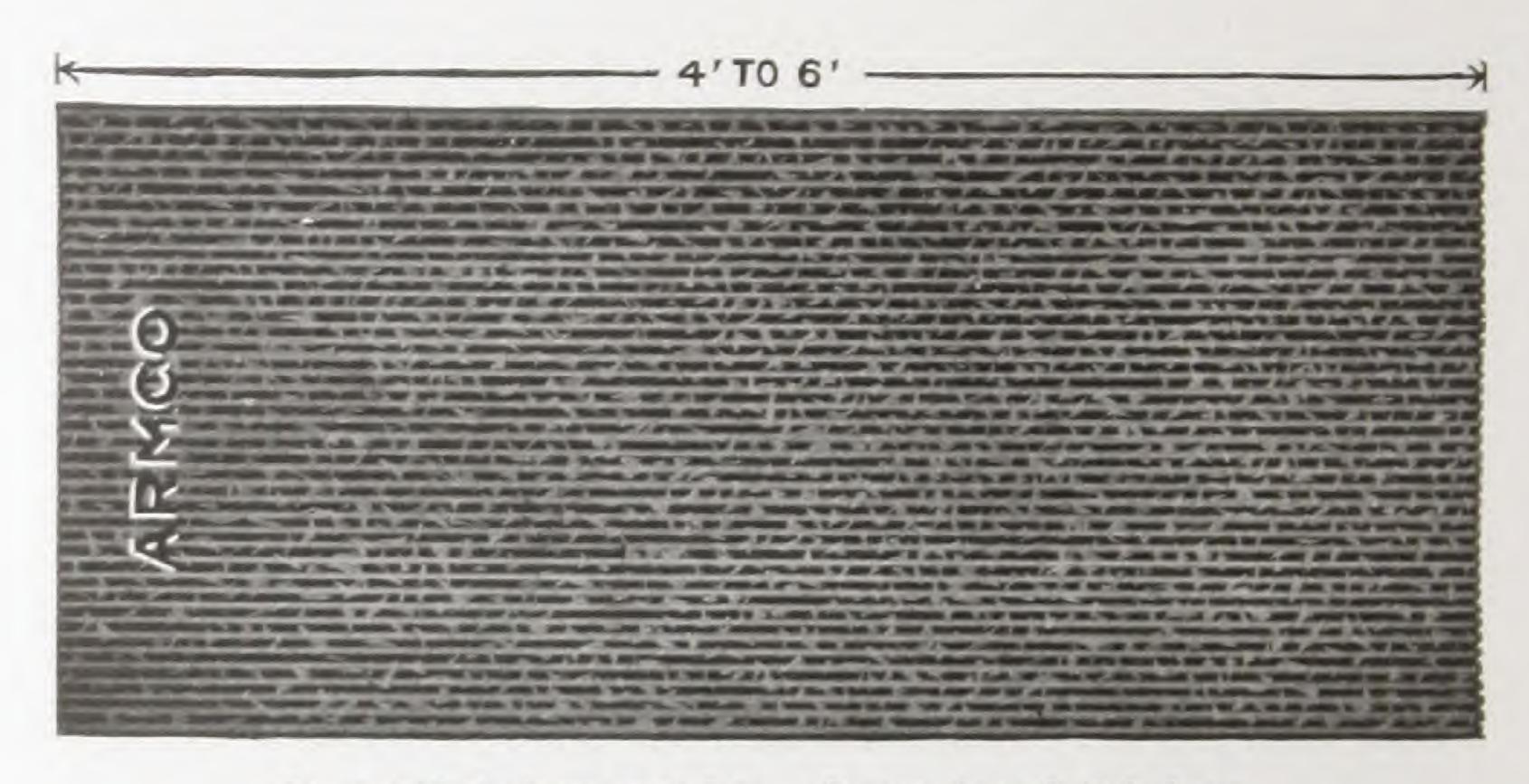


Regular stock sheets are 25 inches wide, cover 24 inches from center to center of outside corrugations, and can be furnished in  $5, 6, 7, 7\frac{1}{2}, 8, 9$  and 10-foot lengths, No. 24 gauge and lighter.

This size can be used the same as  $2\frac{1}{2}$ -inch corrugated sheets, except for roofing, as the corrugations are too small to make a water-proof lap on roof. It is particularly adapted for interior siding, for ceiling large storerooms and warehouses, and for exterior siding, being stiffer than  $2\frac{1}{2}$ -inch corrugations.

#### 5-8-Inch Corrugated Armco Iron

Corrugations 3-16 Inch Deep Black, Painted or Galvanized



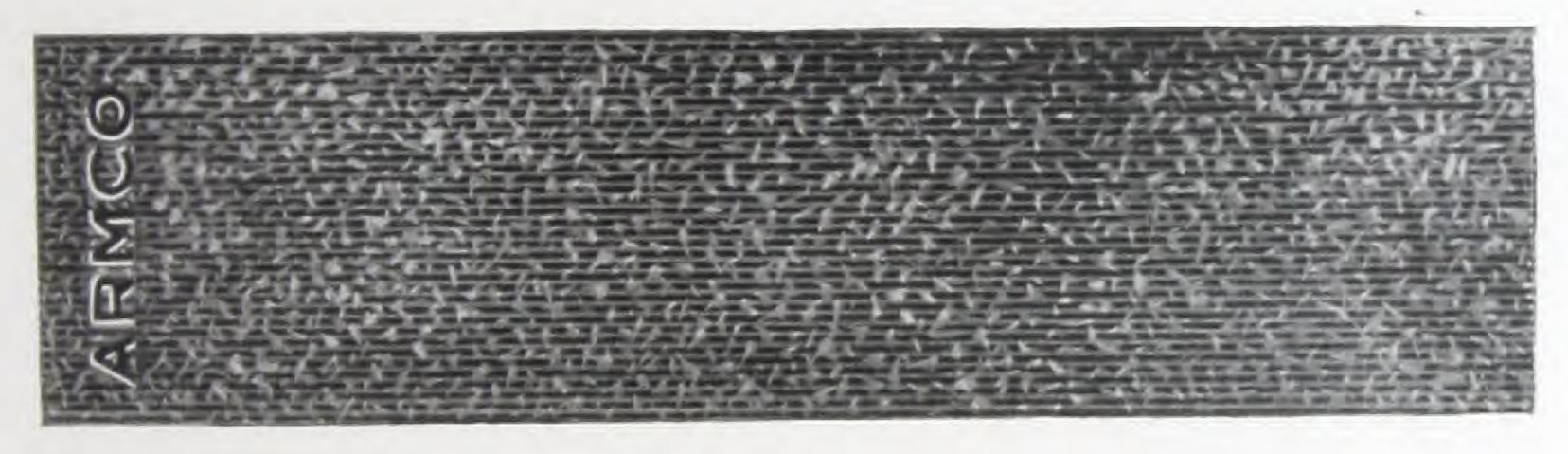
Shows 5/8-inch Corrugated Iron. Corrugations 1/6 inch deep.

Regular stock sheets are 25 inches wide by 6 feet long, and cover 24½ inches when lapped one corrugation, but can be furnished in either 3, 4, 5, or 6-foot lengths, as desired. We can make this size from Nos. 28, 26 or 24 gauge. This is the standard size for ceiling; is cheapest, easiest applied, and best fitted for that purpose. It is also used for interior siding and wainscoting.

We can furnish corrugated iron with standing seam edges that is superior to any patent edge for roofing purposes. Galvanized corrugated sheets furnished in 8 or 10-foot lengths.

#### 3-16-Inch Corrugated Armco Iron

Black, Painted or Galvanized



Shows 1 inch Corrugation.

This size is used for covering wooden doors and shutters. The corrugations being very light, it can be applied as easily as flat iron, and makes a much better appearance. We can furnish this 26 or 28 inches wide, and in 4, 5, 6, 7,  $7\frac{1}{2}$ , 8, 9 or 10-foot lengths. Made in 26 and 28 gauge.

#### Curved Corrugated Armco Iron Sheets

Black, Painted or Galvanized



Shows a Corrugated Sheet curved for Roofing.

These sheets can be curved to any radius desired within bending capacity of the material.

We curve them to specifications required, and pay particular attention to exactness. We can furnish curved sheets in either  $2\frac{1}{2}$  or  $1\frac{1}{4}$  corrugation, and in lengths from 5 to 10 feet.



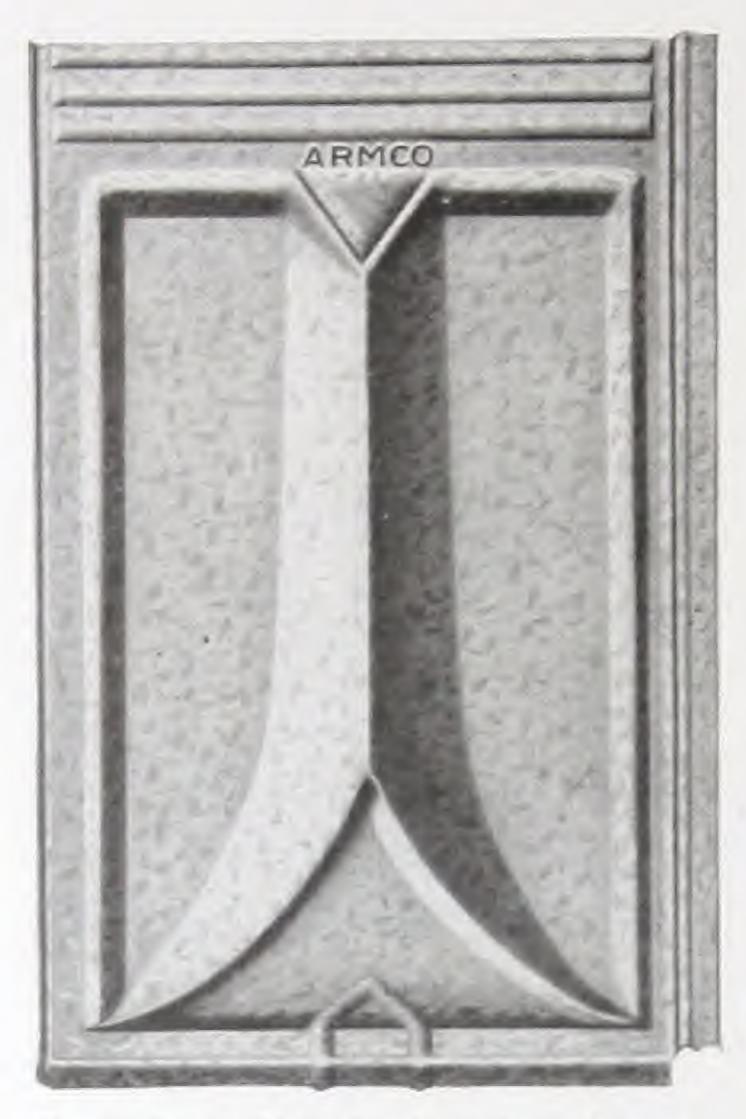
Shows Corrugated Sheet curved at one end for shed or porch roofs. Sheets can be furnished in any stock length up to 10 feet.

#### Rules for Estimating Amount of Corrugated Iron Required to Cover Given Spaces

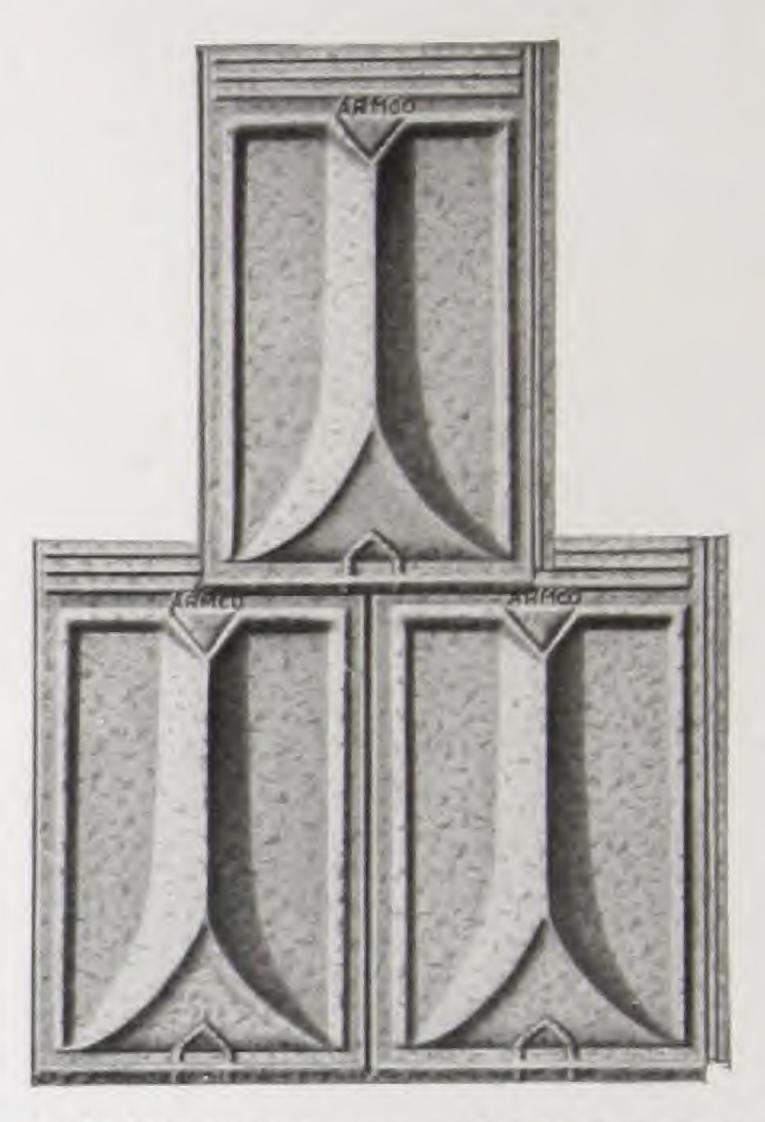
For Roofing—Stock sheets are 5, 6, 7, 7½, 8, 9, and 10 feet long. Sheets 12 feet long can be supplied at a slight additional charge. Take number of sheets of proper length to make rafter, allowing from three to four inches for end laps. For a shed roof, multiply each of the lengths required to make total length of rafter by one-half the total length of building, and to this add five per cent. This will give you the exact number of sheets required. For a gable roof, multiply by full length of building; or, to simply find the total number of square feet required, add ten per cent to the total net measurement of all spaces to be covered.

For Siding—Take a number of sheets of proper length to make height of building; allow from one to two inches end laps; multiply this by one-half length of building, and to this add three per cent. Estimate each side in the same way, or add eight per cent to the net measurements of each space to be covered by the total number of square feet.

#### Armco Iron Shingles



Terne Plate Shingle, American Ingot Iron Base. Durable, Rust-Resisting, Beautiful.



"ARMCO" Galvanized Metal Shingles, Waterproof, Fireproof, Trouble Proof.

As in the case of other Armco Iron Roofing, Armco Shingles make a fire and lightning-proof roof. They are clean and sanitary and give clean cistern water. The surface is smooth and the wind keeps them free from dirt.

Then, too, Armco Shingles are even easier to lay than wooden shingles. Just hammer, metal snips and nails are all you need.

Armco Shingles do not crack, warp, split, blow off nor buckle.

Armco Iron Shingles are stamped with Armco Terne Roofing Plate, coated with pure lead and tin and then galvanized, giving a double coating to resist the weather.

All nailing is done through the flange on the right side of the shingle, where two nail holes are punched.

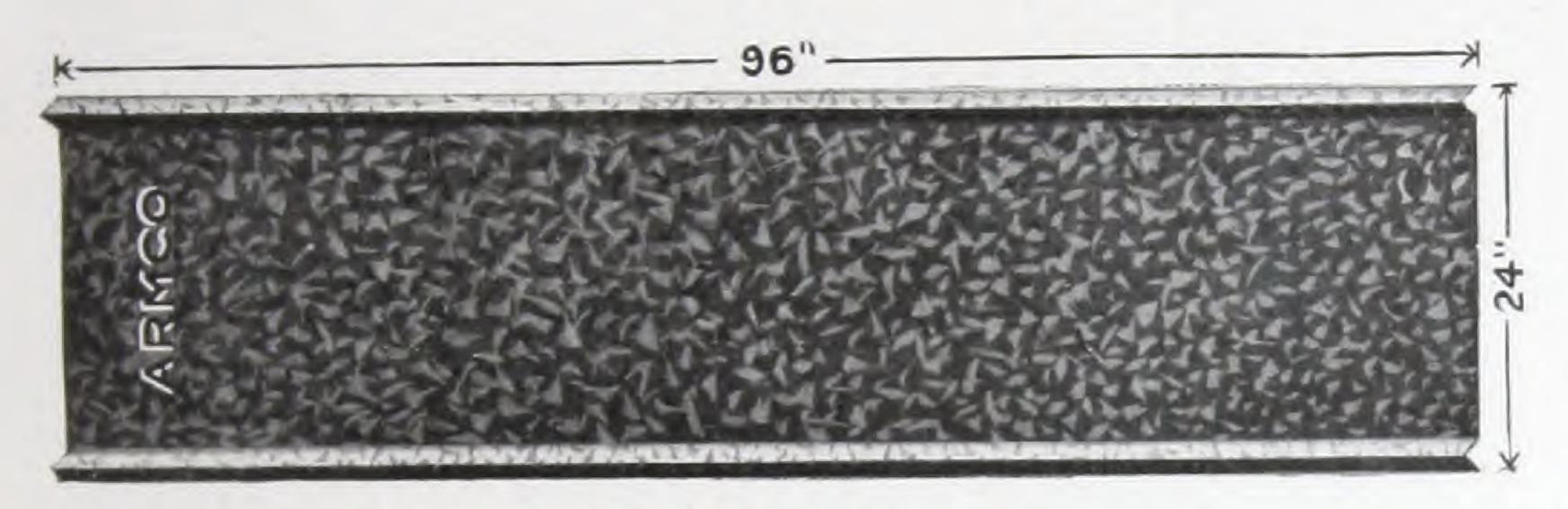
At the top of the shingle ribs are formed to keep rain or snow from entering. The side lock is very simple and, while allowing for expansion and contraction, cannot become unhooked after being nailed in place.

Size of shingles 10 inches by 14 inches, covering  $8\frac{1}{2}$  inches by  $12\frac{1}{2}$  inches of roof; 136 shingles cover 100 square feet, or one square.

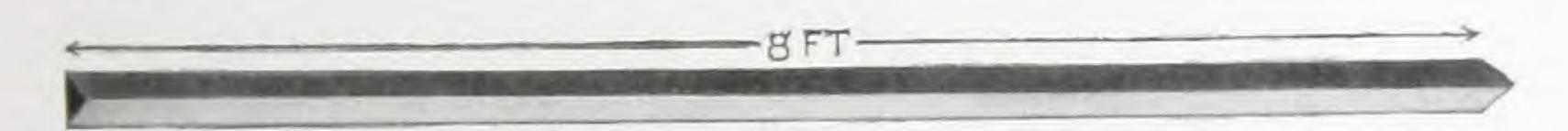
Shipped one square in a box.

#### Two-V-Crimp Armco Iron Roofing

Painted or Galvanized



Shows style of regular V-Crimp Roofing as shipped.



Shows V Stick used with V-Crimp Roofing.

Regular stock sheets are 24 inches wide, and can be furnished in 5, 6, 7,  $7\frac{1}{2}$ , 8, 9 and 10-foot lengths.

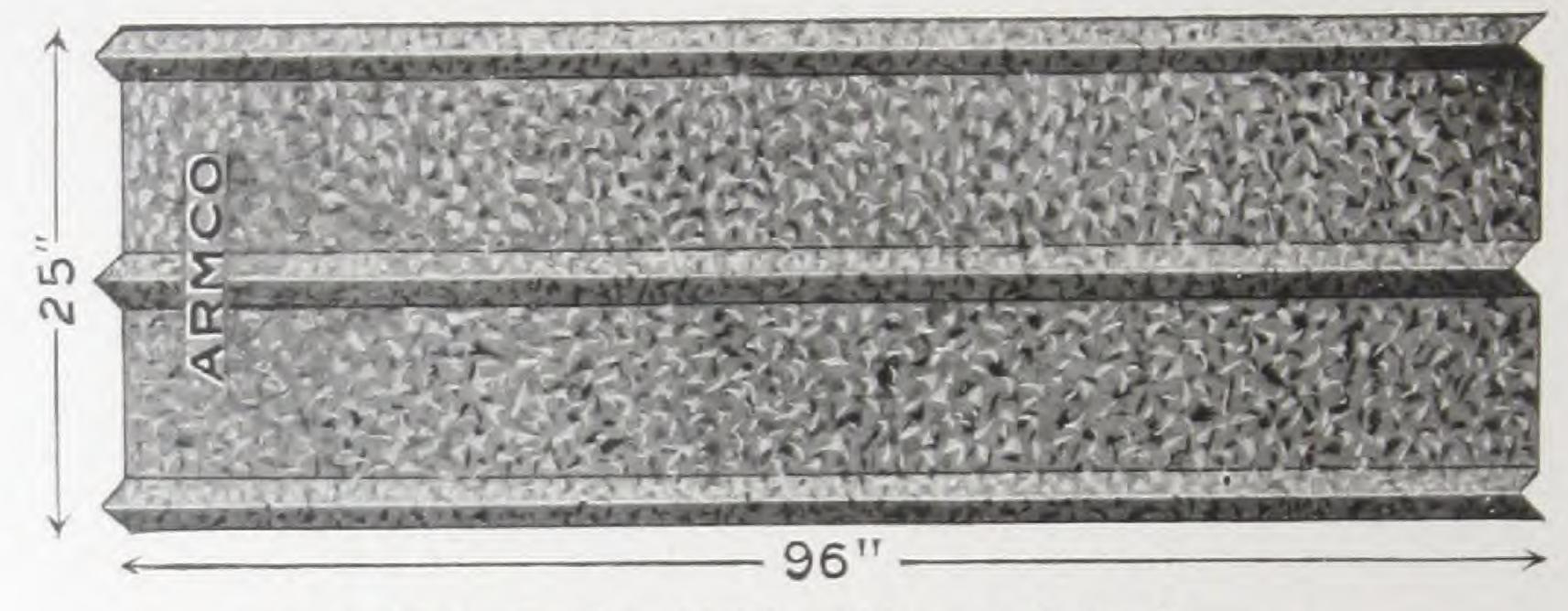
V-Crimp Roofing is the oldest style of iron roofing, and has been used more extensively than any other kind. There is still as large a demand for it as for patent Standing Seam Roofing (which has a much better mechanical construction), on account of its simplicity and cheapness. Anyone can apply this roofing, as the tools required are simply a hammer, a pair of snips, and a jointer to turn end locks. It can be applied direct to close sheathing, or to strips placed four or five inches apart, or over old shingles, as we use Standing Seam Roofing. When put on over shingles we furnish 3-inch nails, so that they will reach the sheathing and hold firmly, but when applied direct to sheathing, 1¾-inch nails are furnished.

Do not lap the ends of V-Crimp Sheets, but lock them together as in standing seam. We carry galvanized roofings in 8 and 10-foot sheets.

We can furnish 20, 22, 24 and 26 gauge, painted or galvanized, in lengths and widths of regular stock sheets, also in 12-foot lengths, at a slight additional charge.

#### Three-Crimp Armco Iron Roofing

Painted or Galvanized

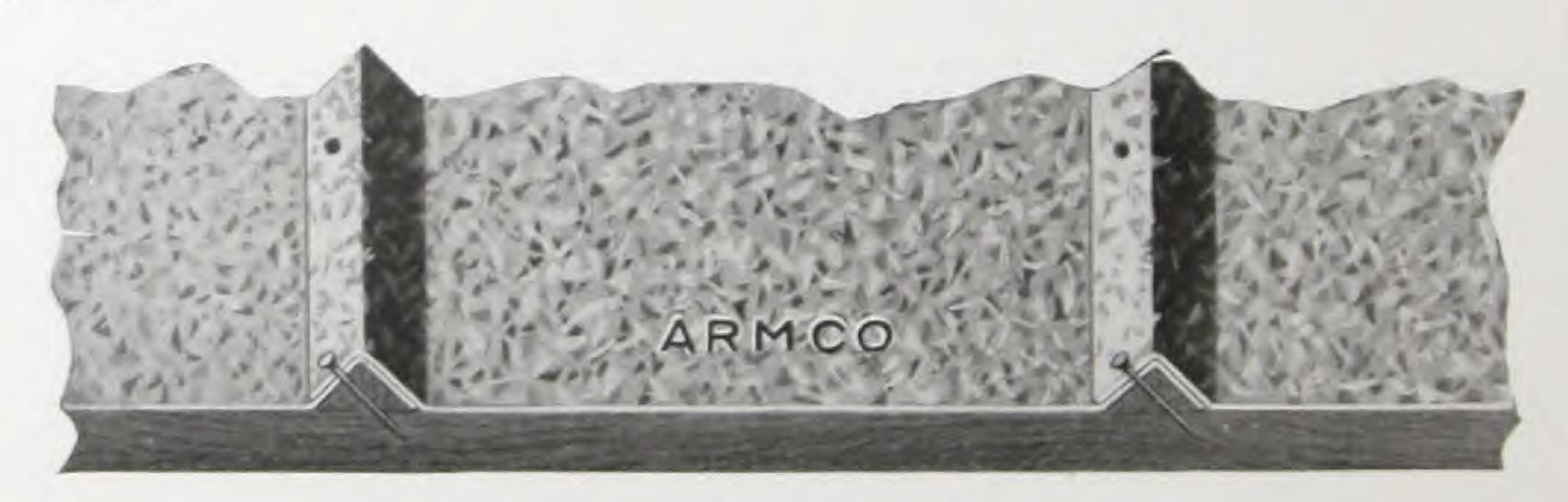


Shows V-Crimp Roofing with Three Crimps, or Center Crimp.
This style is never shipped unless specially ordered.

Regular stock sheets are 25 inches wide, and can be furnished in 5, 6, 7, 7½, 8, 9 and 10-foot lengths. Gauges 28 to 20 in galvanized; 26 to 20 in painted.

V-Crimp Roofing, with Center Crimp, makes a very stiff sheet, and is preferred by some, as it breaks the flat appearance of the sheets.

We recommend its use where rafters are not over 10 feet, and no end laps are required, as it is not advisable to simply lap the ends of the sheets, and it is difficult to make two small end joints on every sheet. We do not furnish sticks for center crimp unless specially ordered.

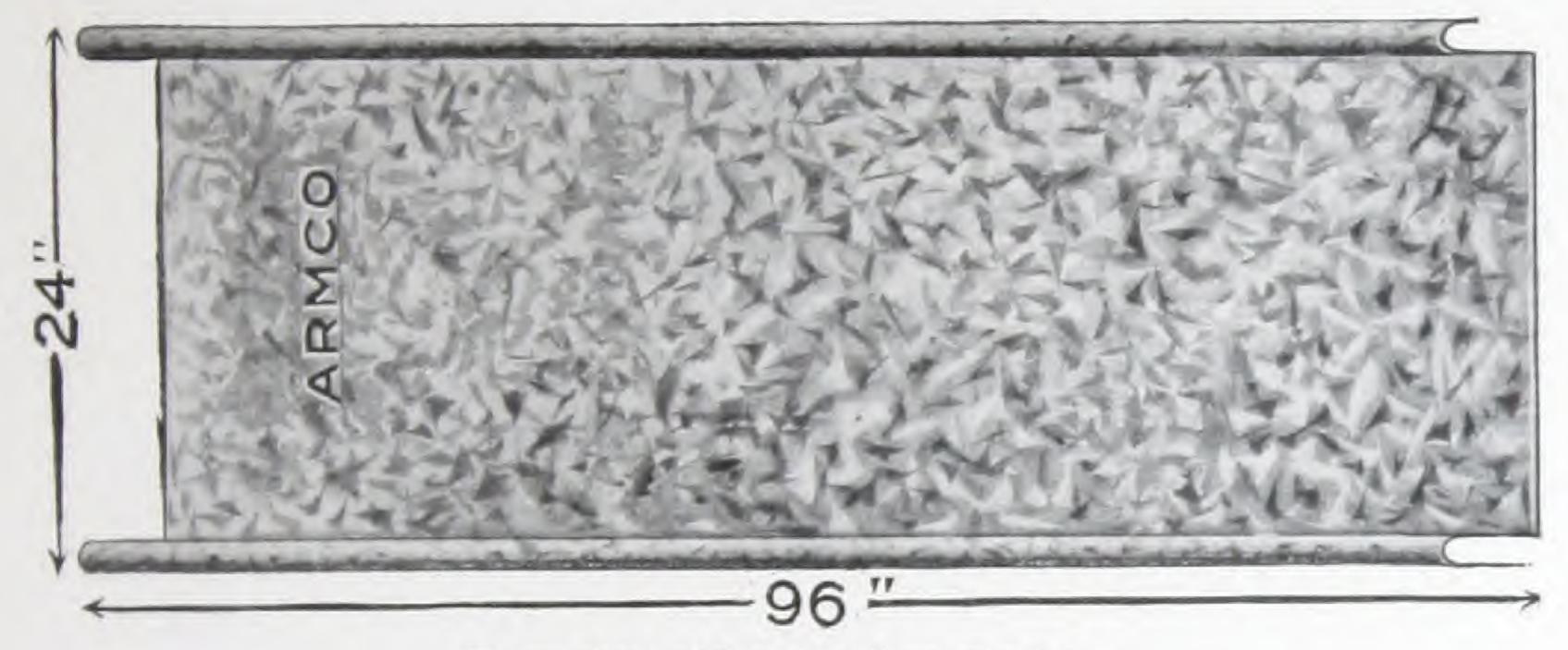


Above Cut shows where to Nail V-Crimp Roofing.

We can furnish Roofing Sheets in 12-foot lengths in gauges listed above at an additional cost of 10 cents per square.

#### Pressed Standing Seam Armco Iron Roofing

Painted or Galvanized



Shows sheet of Standing Seam Roofing.

Our Standing Seam Roofing, shown above, has all the qualities necessary to make a perfect roof. It is so constructed as to make a perfect water-tight joint. It can be cheaply and easily applied, and can be fitted around angles, valleys and openings without unnecessary waste. The nails are not driven through the roofing sheets, but through the cleats underneath the sheets. It is very strong, and can not be blown off, and its construction provides for expansion and contraction.



Shows Straight Cleat as shipped ready to apply.

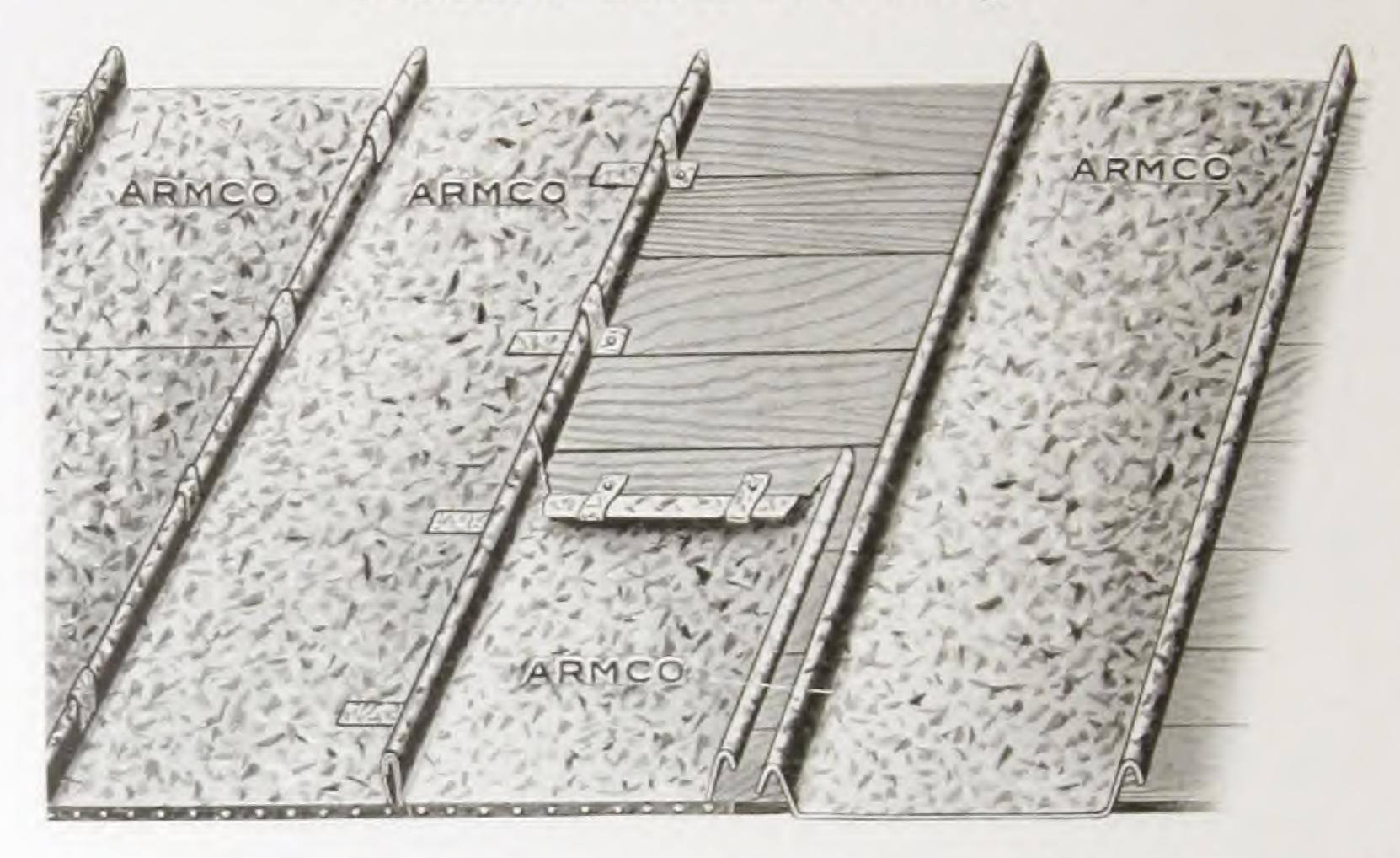
Regular stock sheets of No. 28 gauge are 24 inches wide, and from 6 to 10 feet in length.

This style of roofing can be taken off and reapplied, with simply the loss of the cleats. If this is to be done, write for suggestions.

We recommend it on buildings having two inches or more pitch to the foot.

We can furnish galvanized Standing Seam Roofing in 8 and 10-foot sheets.

#### Directions for Laying Pressed Standing Seam Armco Iron Roofing



Snip and turn the end locks with the jointer and bend upper end of the sheet up and the lower end down. Commence at the lower right-hand corner, hold the sheet so the widest standing seam or lip is at the right-hand side, flatten out the wide standing seam, bend it over and nail to the edge of sheathing, or if fire wall, turn the sheet up 4 to 6 inches, nail securely and counter flash.

Straighten the lower end lock so as to allow same to be nailed to edge of sheeting. This represents the starting sheet, applied.

Now apply cleats to the sheathing, two at the upper lock end and one every twelve or fourteen inches on the side seam; then continue your course up to the comb of the roof, allowing the sheets to project one inch over the comb of the roof on one side and two inches on the other.

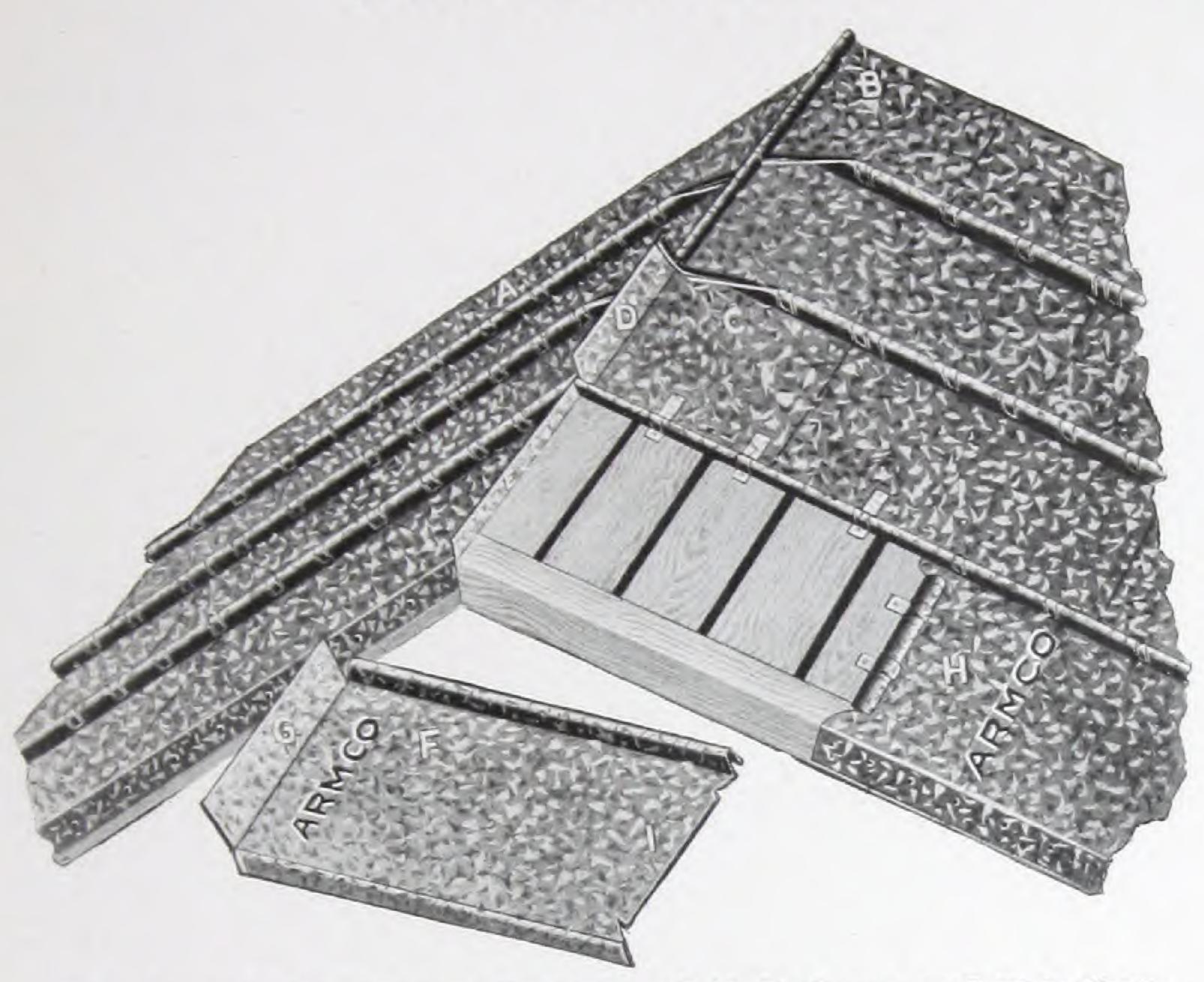
Straighten up, fold the higher over the lower and form seam with squeezing tongs. Or if ridge roll is to be applied, it will not be necessary to fold over end, making a standing seam.

Start the second course with the piece, if any, left over from the first course, allowing the flange to overlap first course standing seam. Press it down and turn the ends of the cleats over, then press seam together with the tongs.

It is best to start second course with a different length sheet than the first in order to break joints. This is the rule when end locking the sheets.

Some simply end lap this roofing and run cross points parallel with each other, but this is not good practice.

#### For a Gable Roof



Shows how to lay Standing Seam Roofing on a Gable Roof, using our Straight Cleats.

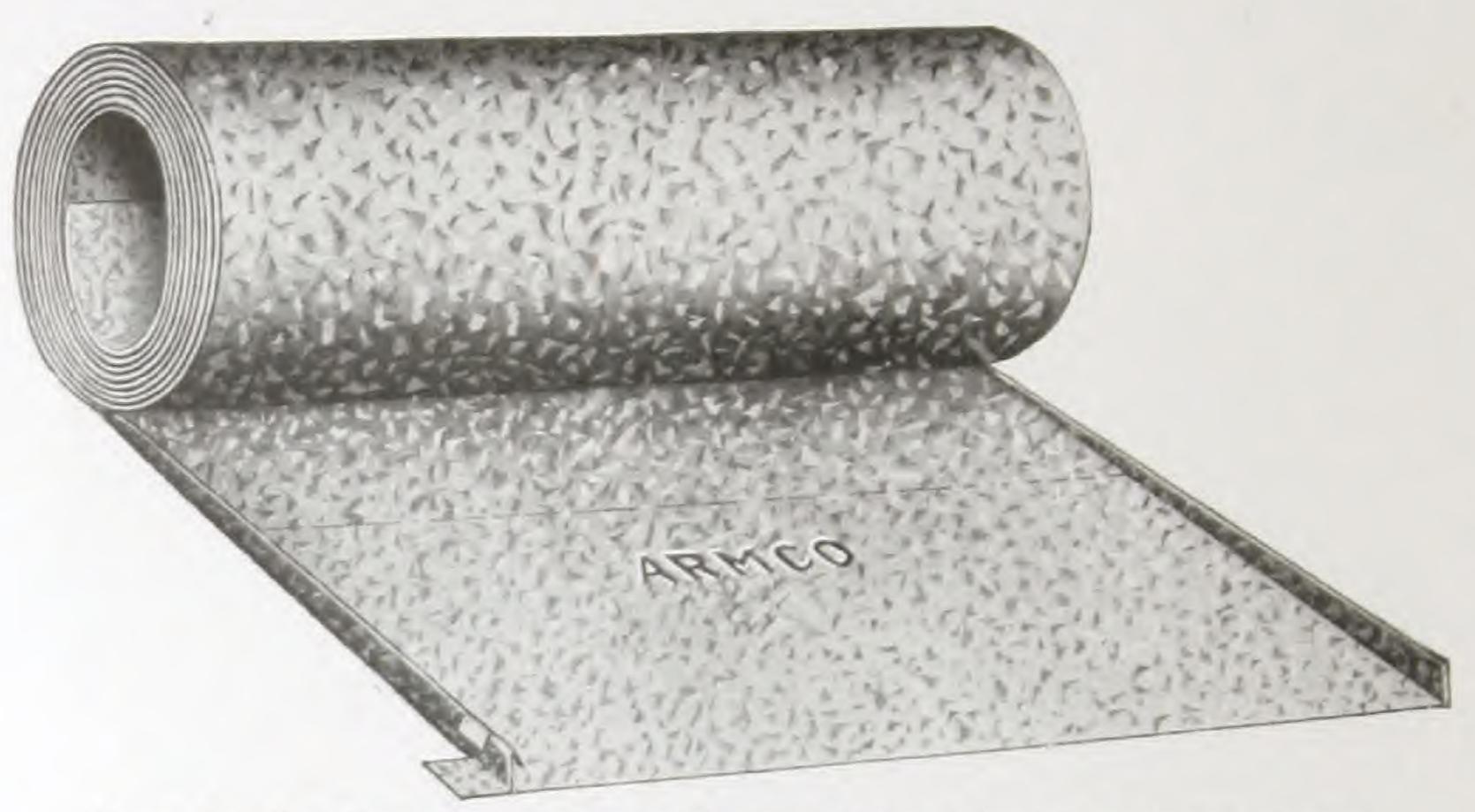
This illustration explains the method of laying Standing Seam Roofing on a gable roof, and the manner of forming the comb without the use of a special combing cap; also method of fastening edges at sides of roof.

A shows side of roof completed. B—Ridge or comb as it appears when completed. C—Standing seam hammered down to form into comb. D—Extreme end of sheet, having two inches turned up to form comb. E—Upper end of sheet on opposite side turned up one inch; over this is folded one inch of the sheet on the opposite side, as in D. The folding of the end of sheet over the opposite one forms a solid ridge cap from the roofing sheets, and only requires a little careful and patient work to accomplish it. F shows sheet formed ready to place in position on roof. H—End cleats in position at end joint of lower sheet. I—End joint formed on lower end of sheet ready to hook into upper joint of sheet H.

Combing cap is not a necessary trimming, and is not included in prices quoted.

#### Roll Armco Iron Roofing

Painted or Galvanized



Shows Roll Iron Roofing with Straight Cleats. Painted Roofing is always shipped unless otherwise ordered.

This style of roofing is especially adapted to roofs having less than two inches pitch to the foot, and is used successfully where only one inch fall is given.

Each roll as shipped contains 100 square feet after the sheets are jointed together. These rolls are made up of five sheets 122 inches long, or equivalent, swedged together, being locked by a power swedger that makes a very close and neat joint.

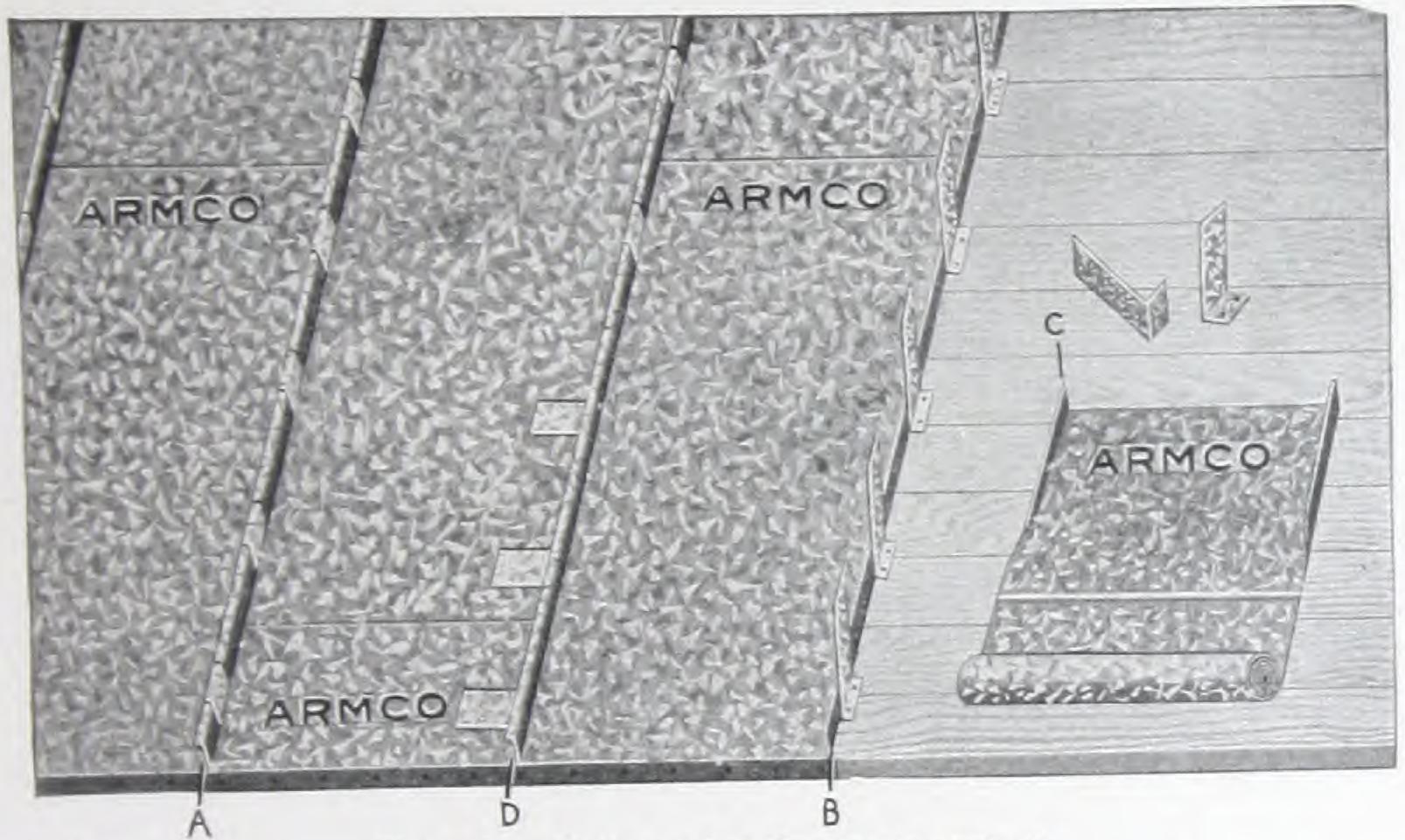
Our method of laying is very simple, and makes a perfect roof when completed. We do not rivet or countersink our caps, but allow for expansion and contraction in our metal cleat fastening.

This is a very desirable roofing where buildings have the roof pitch one way only with a slight fall and long courses.

We can furnish Roll Roofing with either single or double cross lock.

Gauges 28 to 24 in galvanized or 26 and 24 in painted.

#### Directions for Laying Roll and Cap Armco Iron Roofing



Shows how Roll and Cap Roofing is applied.

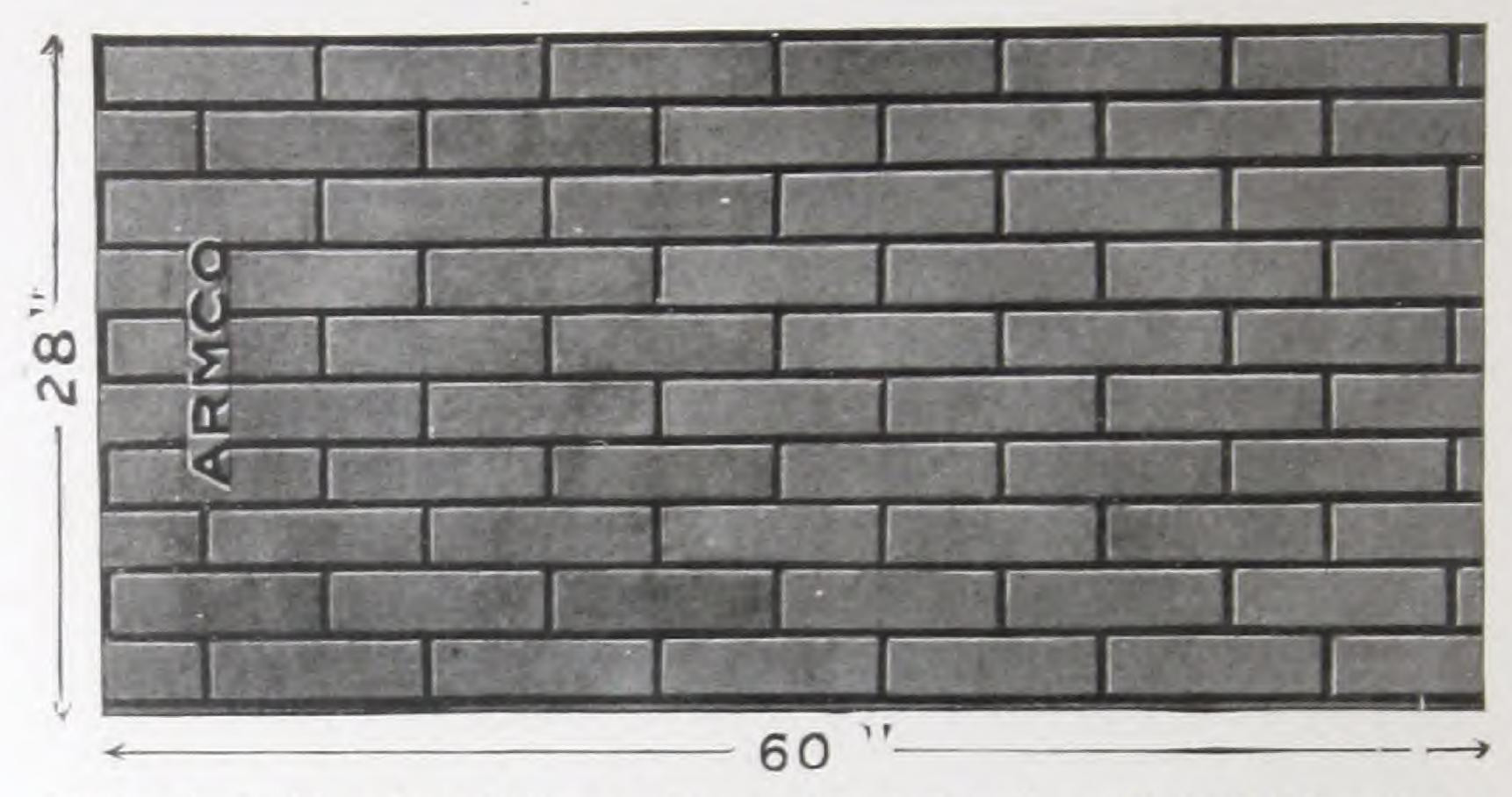
This figure explains the method of laying Roll and Cap Roofing on a shed roof. Cut rolls into strips to suit length of rafters, allowing one inch both at eave and comb to fasten.

A shows finished seam. B shows edge of sheets turned up to form seam, with cleats placed in position and nailed to sheathing. C shows sheet with edges turned up and ready to place against sheet B. D shows manner of fastening sheets at eave. After sheet C is placed against sheet B, the cap is dropped over single edge of each, then the long end of cleat is turned over cap, and all are squeezed up together with tongs.

Never give a roof less than one inch fall to the foot.

We make rolls in lengths to suit the rafters or runs without extra charge, when requested.

#### Pressed Brick Armco Iron Sheet Siding



Shows sheet of Iron Brick Siding as shipped. Sheets 28 inches wide by 60 inches long.

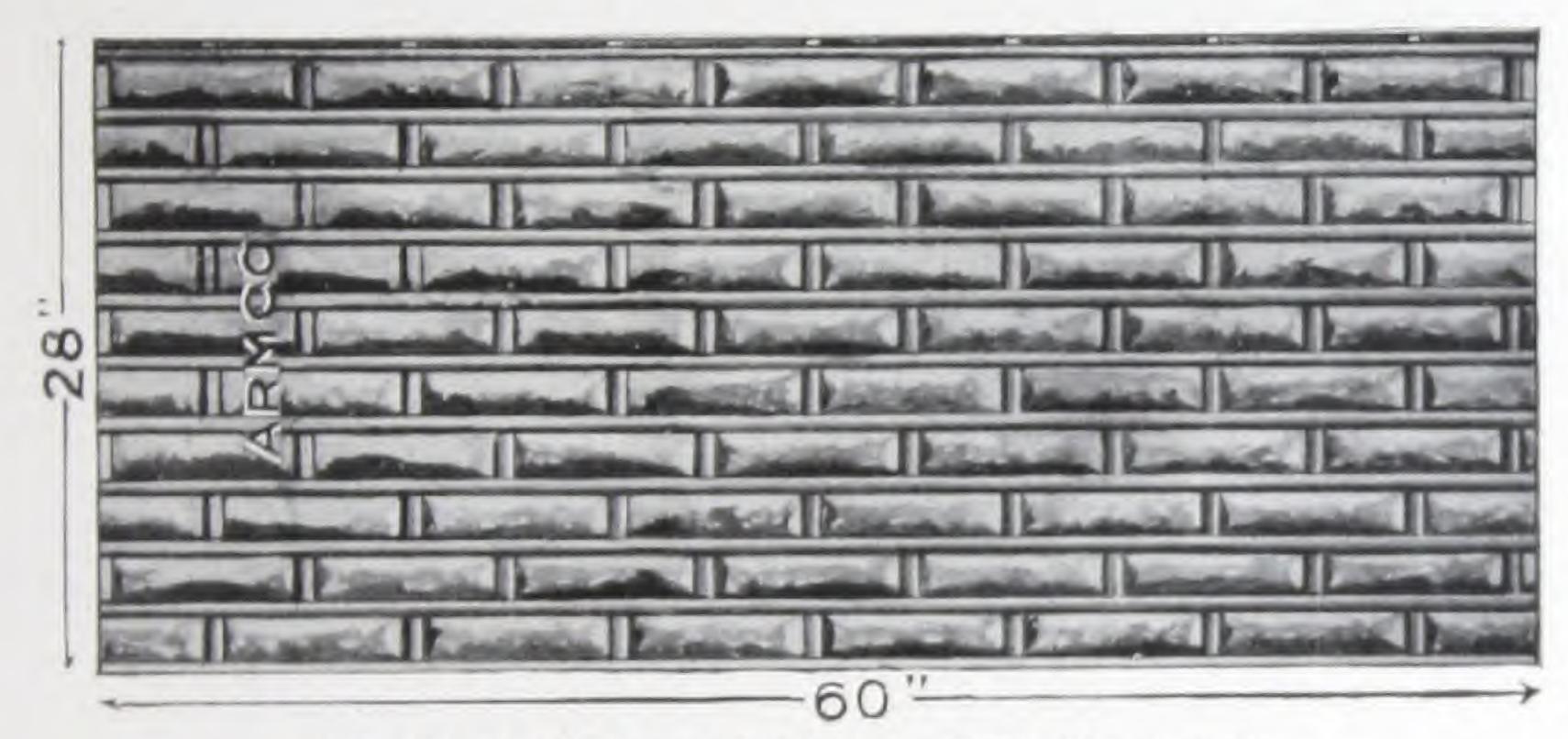
All sheets will measure 28 by 60 inches. This is the only sized sheet that can be made to work to advantage. In all cases care should be taken to break side joints. This will give greater strength to the structure and allow material to fit more perfectly. Gauges 28 to 26.

#### Directions for Applying

Commence about eight inches from right-hand corner, always applying first sheet at bottom of right-hand corner, and lay from right to left on all four sides, if they are to be covered. In starting first course, if the framework rests on the ground, put a wood strip all around the foot three inches wide. After first course is laid, if a piece is left, use this to start the next course. Always have the nailing flanges at top of sheet and end of sheet last laid, so that the next sheet will lap over flange at top and side, and fit into grooves and form perfect joints. We advise driving one nail in every third brick groove, forming a square. This forms the sheet close to sheathing, and keeps same from buckling.

Always lay the concave or hollowed part of mortar line on the outside. Shipped two squares to the bundle, or five squares to the crate.

### Rock-Face Brick Armco Iron Sheet Siding Painted or Galvanized



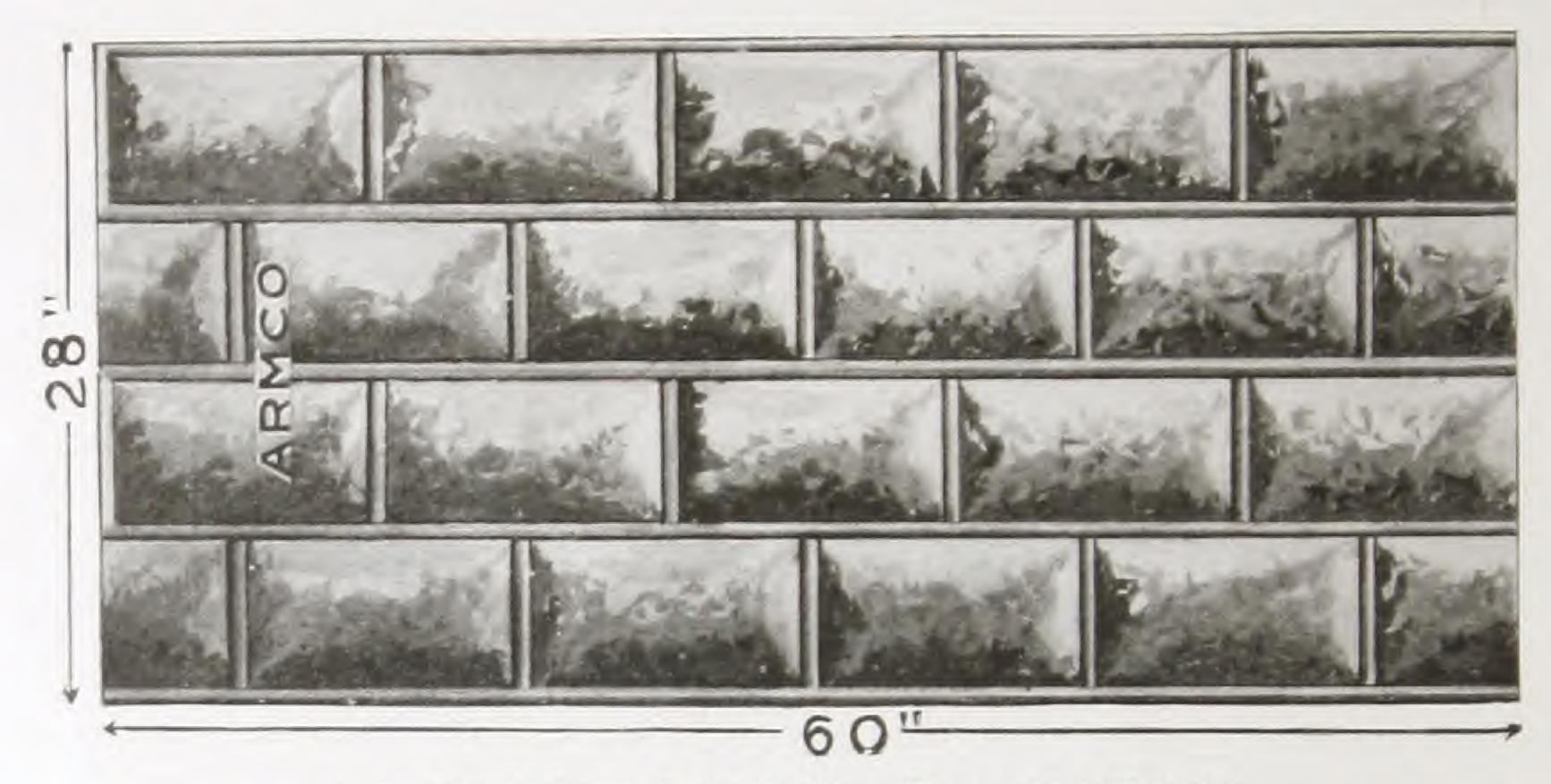
Size of Single Brick, 2 x 8 inches. Sheets, 60 x 28 inches. Gauges 28 to 26.

This is the latest style of Sheet Metal Siding now on the market. Imitates rock-face and brick to perfection. It compares favorably with finished rock-face stone or brick, making the most attractive and handsome sheet-metal covering yet produced.

It is used extensively for side covering on business blocks, dwellings, school houses, court houses, auditoriums, opera houses, factories, etc.

We also furnish this siding in copper.

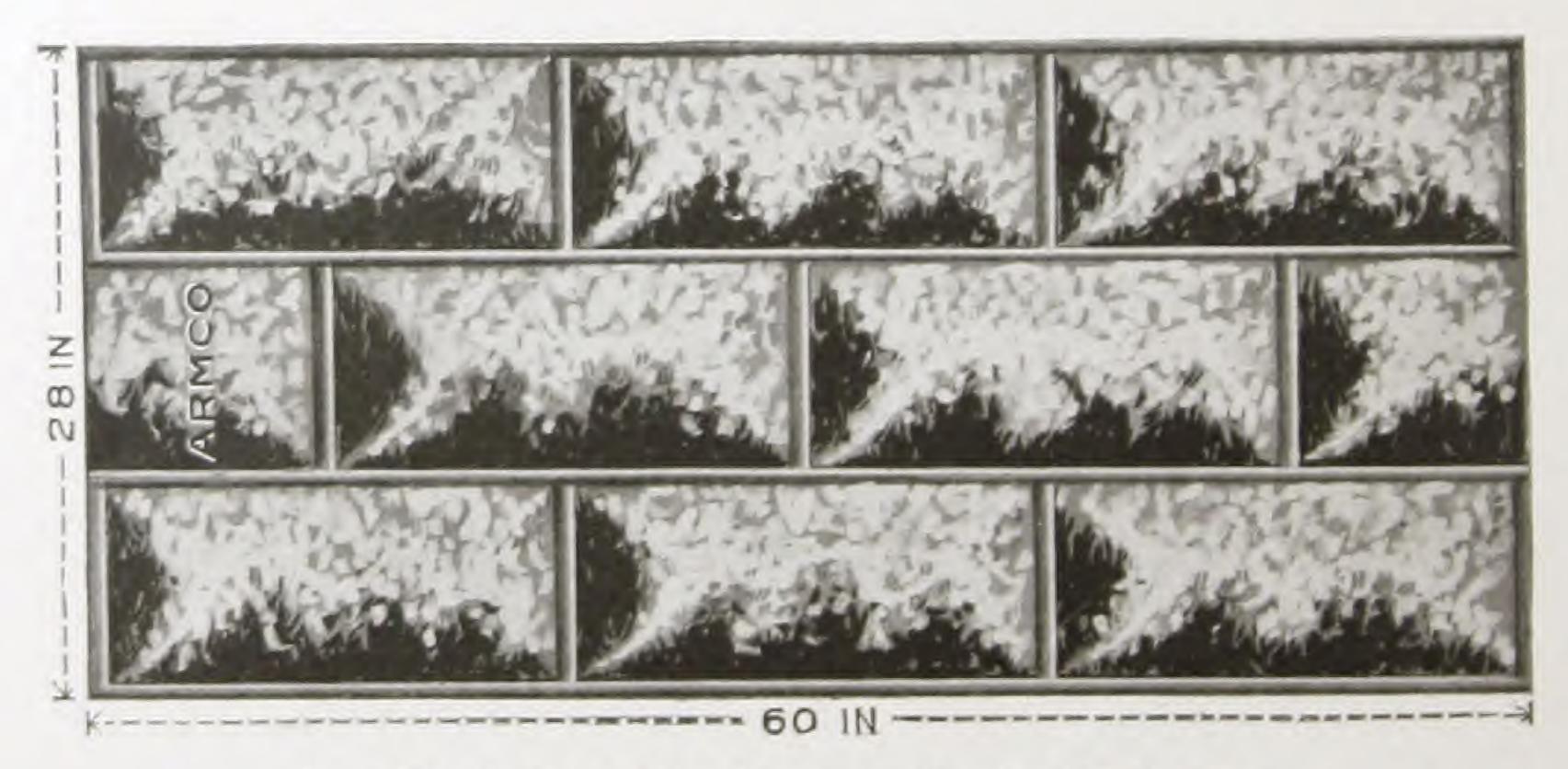
#### Rock-Face Stone Armco Iron Siding



Size of Single Stone, 7 x 12 inches. Sheets, 60 x 28 inches. Gauges 28 and 26.

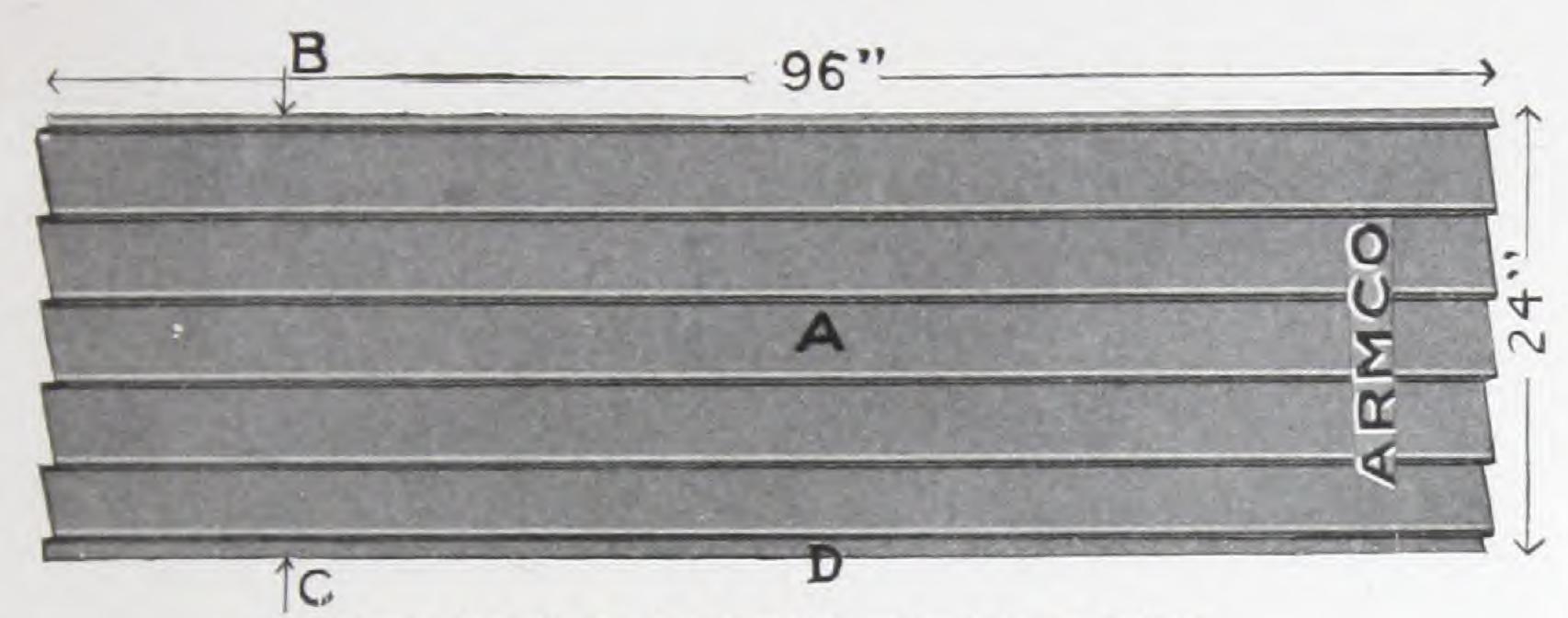
A Square of Rock-Face Brick or Stone consists of 8 4/7 sheets, 60 inches long by 28 inches wide, painted both sides or galvanized.

In ordering Plain or Rock-Face Siding, allow 4 to 6 square feet to the 100 for laps.



Size of Single Stone, 91/8 x 20 inches. Sheets, 60 x 28 inches. Gauges 28 to 26.

#### Weatherboard Armco Iron Siding



Shows the full sheet of Metal Clapboarding as shipped.

This siding makes a perfect imitation of wooden weatherboards. It is cheaper than wood, and its fireproof quality gives it a decided superiority. Gauges 28 to 26.

In applying weatherboarding, lap the sides of sheets as indicated in cut, and ends from one to two inches; also put a few nails through the body of the sheet at different places, so as to hold it firmly to the sheathing, and always drive them close under the flange.

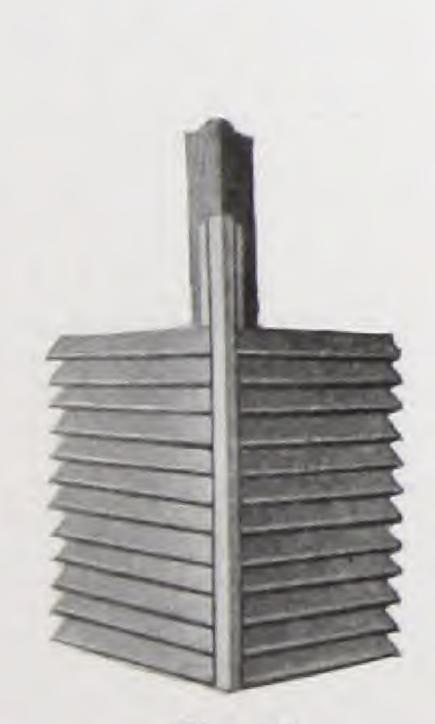


Fig. 36.
Shows Clapboards laid on each side of Corner Boards.



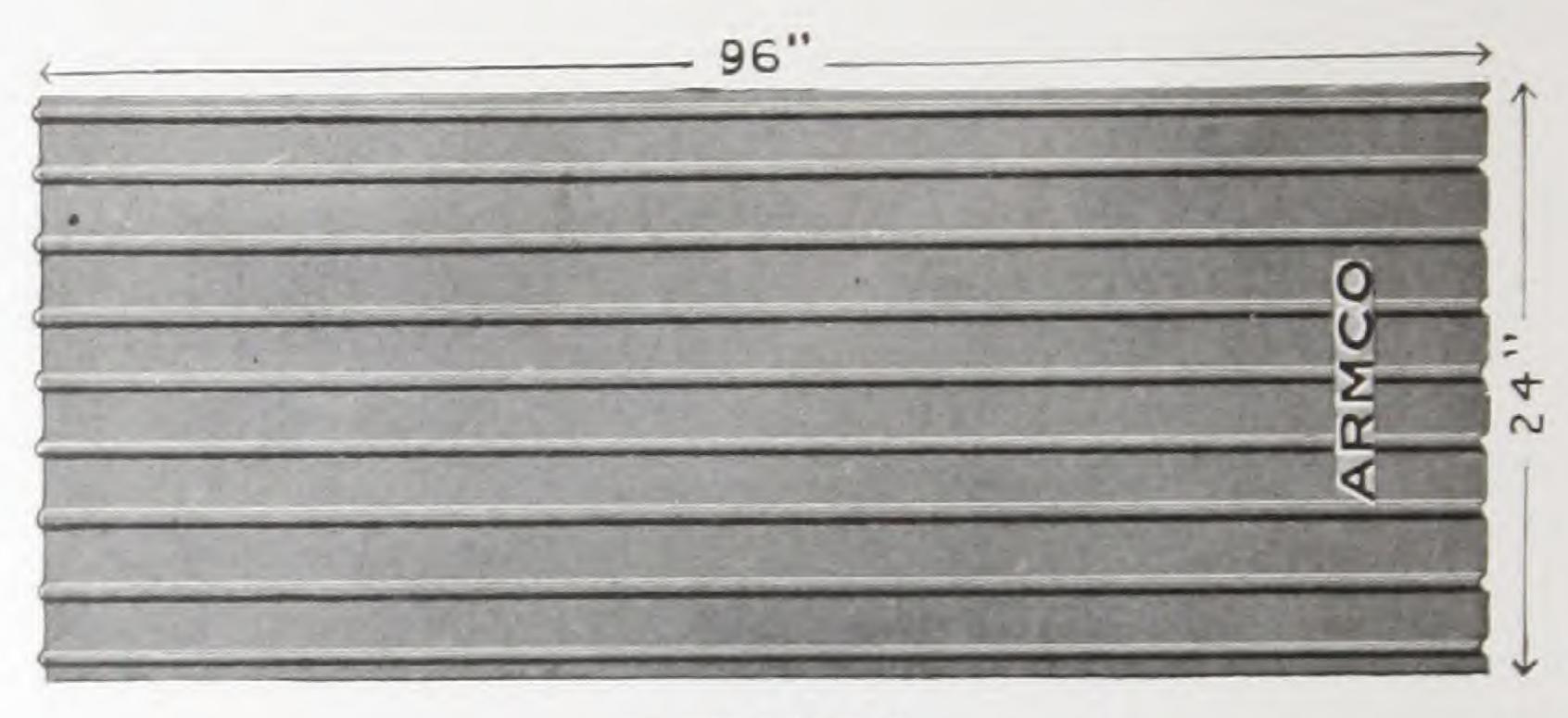
Fig. 37.

Shows sectional view of Clapboard with Lap Joint and Nail partly driven. This lap forms hook joint, and if the nails are driven secure with the nail sett, the joint will be thoroughly water-tight.



Fig. 38.
Shows section of Corner Board.
Used with Weatherboard Siding.

#### Beaded Armco Iron Siding



Gauges 28 to 26

Regular stock sheets are 24 inches wide by 96 inches long. We can furnish other lengths from 5 to 10 feet when specially ordered.

Beaded sheets are used for both siding and ceiling, and make a very fine appearance however used.

Each sheet has 9 beads, 3 inches apart, and covers 24 inches when lapped in outer bead.

No special tools are required to apply the material.

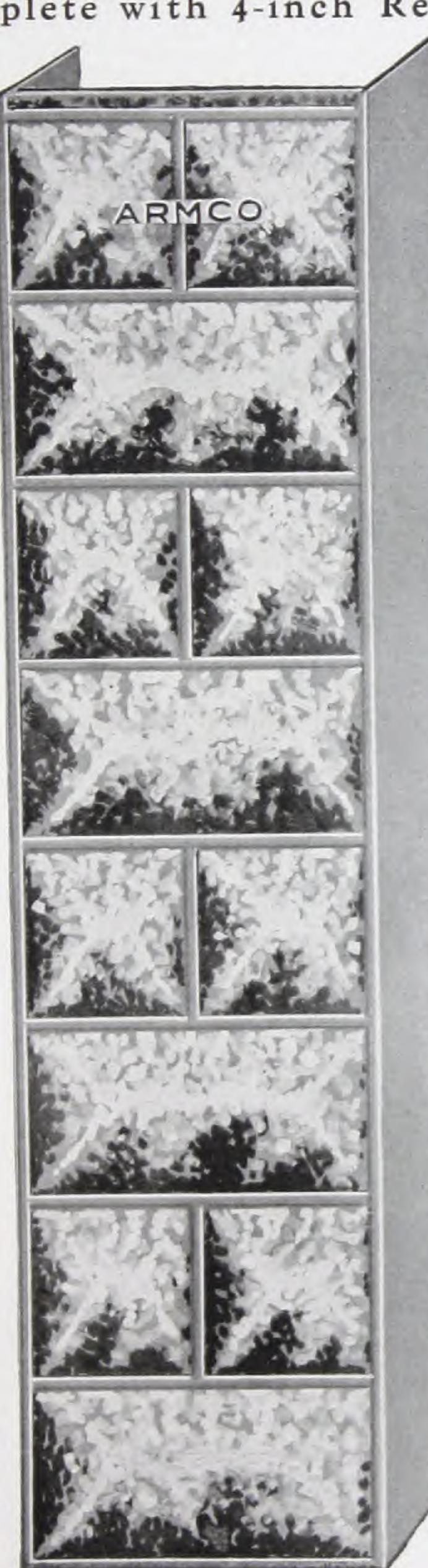
Sheets can be applied direct to ceiling joists, but make a much better job when close sheathing is used, and can be laid much faster.

When no length is specified we always ship 8-foot sheets.

#### Armco Iron Pilaster Complete with 4-inch Return



Shows Rock-Face Brick Corner Finish, 4 inches to the weather on each face.



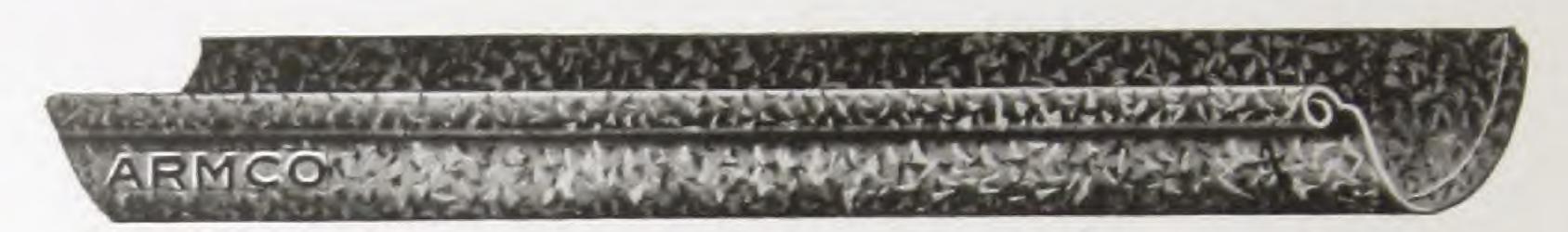
Gauges 28 to 26



Corner

Shows Plain Brick Corner Finish, 4 inches to the weather on each face.

#### Slip Joint Eaves Trough with Slip Joints Attached



Made of Galvanized Armco Iron, Gauges 28 to 24.

This trough comes in 10-foot lengths, without seams. As no solder is needed half the labor of erection is saved and the trough is stronger. The joint takes care of expansion and contraction. Made in right-hand and left-hand.

The slip joints are water-tight and guaranteed to go together easily. The beads are strong, perfect and uniform.

Sizes are taken inside of bead.

#### Sizes in Ten-Foot Lengths

3 -inch (6½-inch girt)

3½-inch ( 7¾-inch girt)

4 -inch (81/4-inch girt)

4½-inch (9 -inch girt)

5 -inch (97/8-inch girt)

6 -inch (111/8-inch girt)

7 -inch (131/4-inch girt)

8 -inch (15 -inch girt)

9 -inch (16 -inch girt)

10 -inch (16 -inch girt)

Copper Trough made in 8-foot lengths only.

Three-inch to six-inch, inclusive, ½-inch bead; 7-inch to 10-inch, 5%-inch bead.

A crate of trough contains 25 full length pieces, half right and half left, unless otherwise ordered.

Always state to your dealer whether right or left is wanted, otherwise half right and half left will be shipped.

#### Armco Iron Lap Joint Eaves Trough



A perfect, uniform eaves trough.

Made in ten-(10) foot lengths of Galvanized Armco Iron, gauges 28 to 24; or in eight- (8) foot lengths of 14 to 16-ounce copper.

#### Sizes

3 -inch (6½-inch girt)
3½-inch (7¾-inch girt)
4 -inch (8¼-inch girt)
4½-inch (9 -inch girt)
5 -inch (9¾-inch girt)
6 -inch (11½-inch girt)
7 -inch (13¼-inch girt)
8 -inch (15 -inch girt)
9 -inch (16 -inch girt)
10 -inch (18 -inch girt)

3-inch to 6-inch inclusive, ½-inch bead.

7-inch to 10-inch, ½-inch bead.

Packed in cases of 250 feet.

#### Armco Iron Polygon Conductor Pipe



For durability and artistic effect it has no equal.

Sizes—10-foot lengths Galvanized Armco Iron. In 2, 3, 4, 5 and 6 inches; 28, 26 and 24 gauge.

Sizes—8-foot lengths, cold rolled copper. In 2, 3, 4, 5 and 6 inches, 14 and 16-ounce.

Its handsome design combines many distinct advantages over all other kinds.

The concave corrugated twisted form produces great strength and resistance and therefore prevents denting or disfiguring; it also checks the sudden fall of ice, thus protecting joints and seams.

Expansion and contraction are amply provided for in its construction, consequently the pipe will not burst.

It is made of full weight Galvanized Armco Iron rust-resisting sheets, in 10-foot lengths and 8-foot lengths in copper without a cross-seam, and costs but a trifle more than common pipe.

To avoid ever-recurring repairs to your conductor pipes, use Polygon. It is simple, durable, strong and handsome.

#### Styles of Galvanized Armco Iron Conductor Pipe

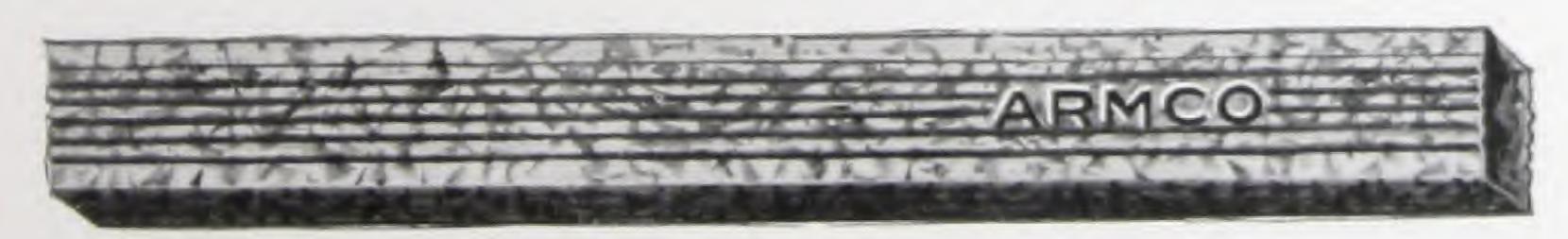
Gauges 28 to 24



Plain Round Conductor Pipe.



Round Corrugated Conductor Pipe.



Square Corrugated Conductor Pipe.

#### Armco Iron Rainwater Cut-offs



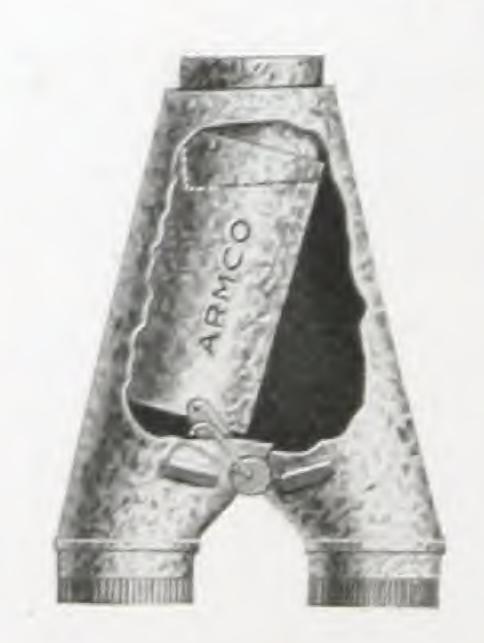


These can be used in any position without extra pipe.

Made of tin or Galvanized Armco Iron, nicely japanned, and put up in crates of one dozen each (assorted right and left-hand wires) so they may be used in any position without extra pipe or elbows.

#### Sizes

2-inch, Tin or Galvanized 3-inch, Tin or Galvanized 4-inch, Tin or Galvanized 5-inch, Tin or Galvanized 6-inch, Tin or Galvanized





#### Sizes

2-inch, Tin or Galvanized 3-inch, Tin or Galvanized 4-inch, Tin or Galvanized 5-inch, Tin or Galvanized 6-inch, Tin or Galvanized

3 and 4-inch cut-offs are packed in crates of 1 dozen each. 5 and 6-inch cut-offs are packed in crates of ½ dozen each.

# Armco Iron Elbows and Shoes

Corrugated or plain round and galvanized, 28 to 24 gauge.

#### Sizes

2-inch, Corrugated or Plain Round 3-inch, Corrugated or Plain Round 4-inch, Corrugated or Plain Round 5-inch, Corrugated or Plain Round 6-inch, Corrugated or Plain Round

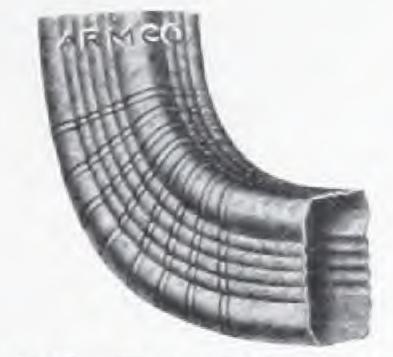
# Flat Crimp Square Elbows



Style A, or Ordinary Curve.

### Sizes

2-inch 3-inch 4-inch 5-inch 6-inch



Style B, or Side Curve.

By proper combination of Styles A and B, a square pipe can be made to turn the corner of a building as easily as a round pipe.

# Copper Elbows and Shoes

#### Sizes

2-inch 4-inch 3-inch 5-inch 6-inch

Copper elbows can be furnished in either 14 or 16-ounce stock. Order elbows and shoes by size and number.

# Flat Crimp Polygon Elbows





These elbows fit and match Polygon pipe perfectly.

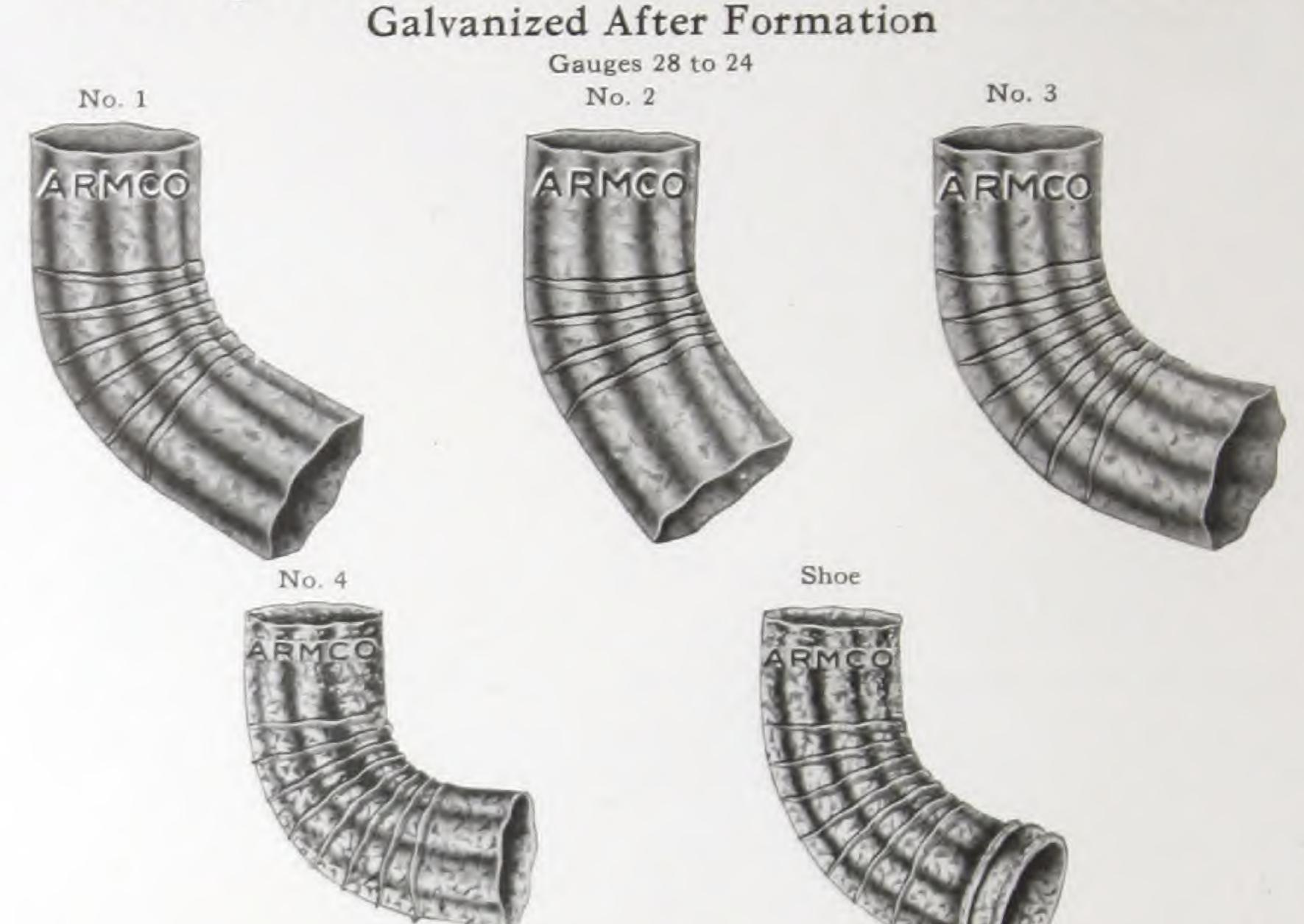
Sizes—2, 3, 4, 5 and 6 inches. In Galvanized A. I. I. 14 and

16-ounce copper elbows and shoes.

ORNAMENTAL ELBOWS AND RECEIVERS, when used in connection with Polygon pipe, greatly enhance the architectural beauty of houses.

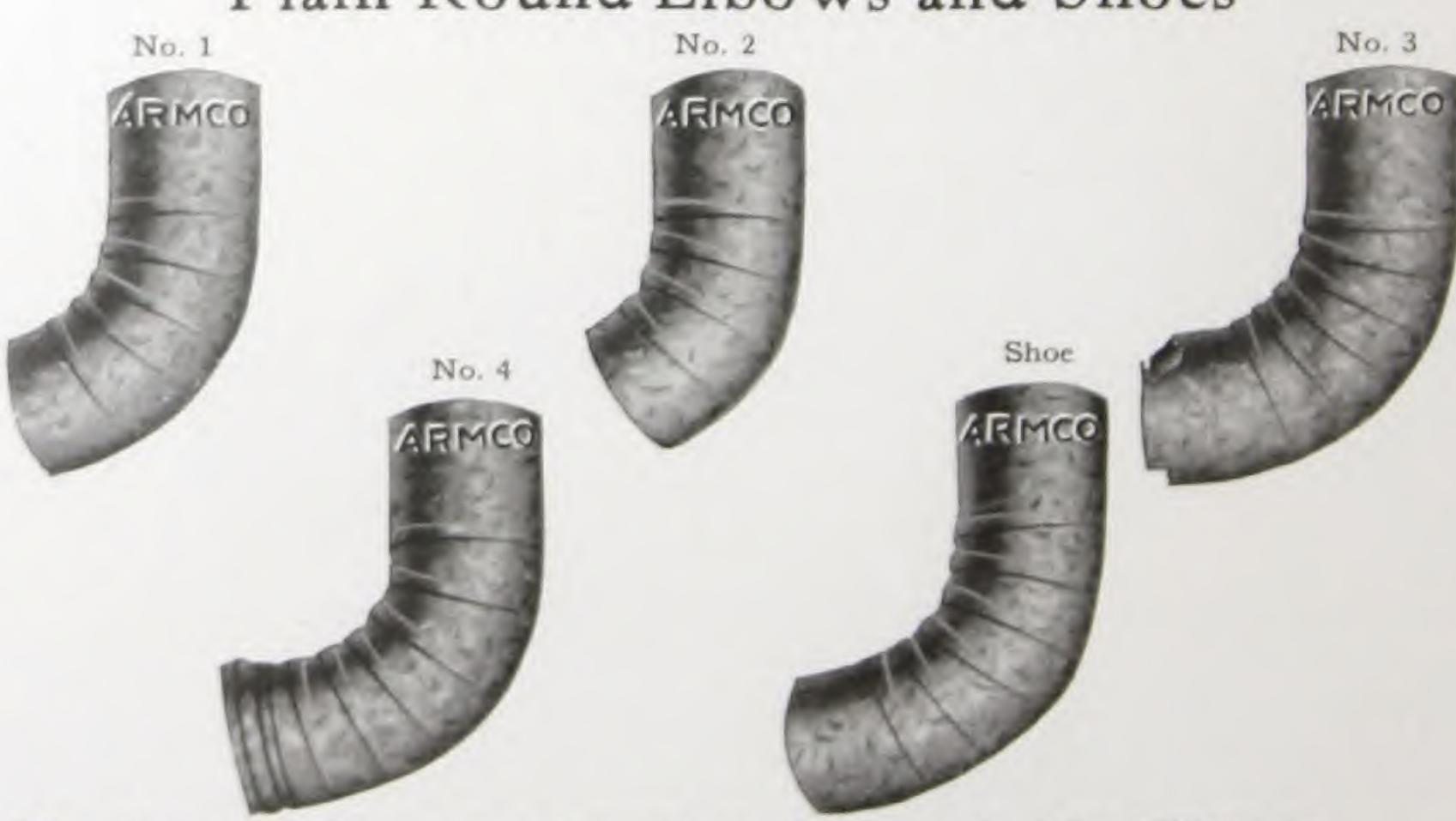
Prices quoted on application.

# Corrugated Armco Iron Elbows and Shoes



The above cuts represent 4-inch Elbows and Shoe, and show the exact number of crimps in each NUMBER of that size.

# Plain Round Elbows and Shoes



The above cuts show exact number of crimps in 3-inch Elbows. Order Elbows and Shoes by Size and Number.

# Ridge Roll of Armco Iron

Painted or Galvanized Oval Ridge Caps

No. 28 Gauge



#### Sizes

Width of

Apron

11/4-in. size, 7-in. girt 2 in.

1½-in. size, 8-in. girt 2¼ in.

2 -in. size, 10-in. girt 25/8 in.

2½-in. size, 12-in. girt 3 in.

3 -in. size, 15-in. girt 4 in.

If size is not specified in order, we ship the 12-inch girt. Painted cappings are always shipped unless otherwise ordered. Ten-foot lengths are always shipped unless otherwise ordered.

# Corrugated Ridge Roll



## V-Ridge Cap

No. 28 Gauge



6-inch girt 7-inch girt 8-inch girt 10-inch girt 12-inch girt

# Armco Iron Gutters—(Concluded) Style F



#### Sizes

Size	inches,	7 inches,	8 inches
Depth 5½	inches,	6 inches,	6 inches
Girt		20 inches,	22 inches

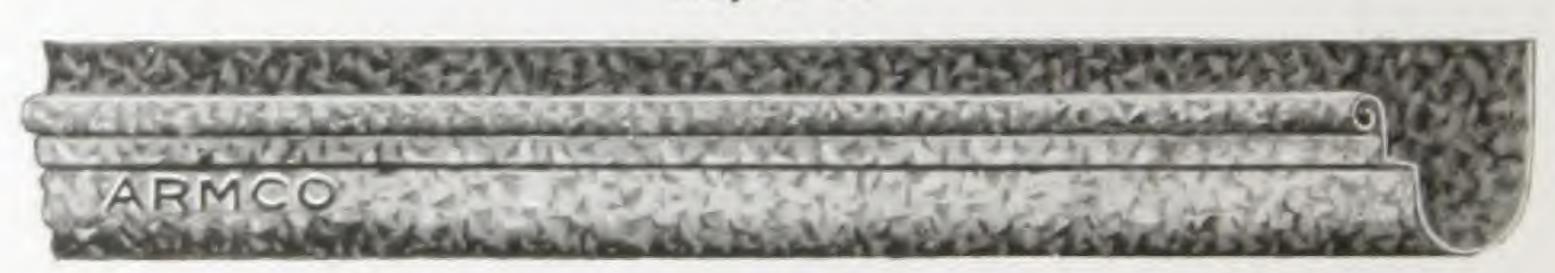
#### Style G



#### Sizes

Size 6	inches,	7 inches,	8 inches
Depth	1/2 inches,	61/2 inches,	7 inches
Girt	inches,	20 inches,	22 inches

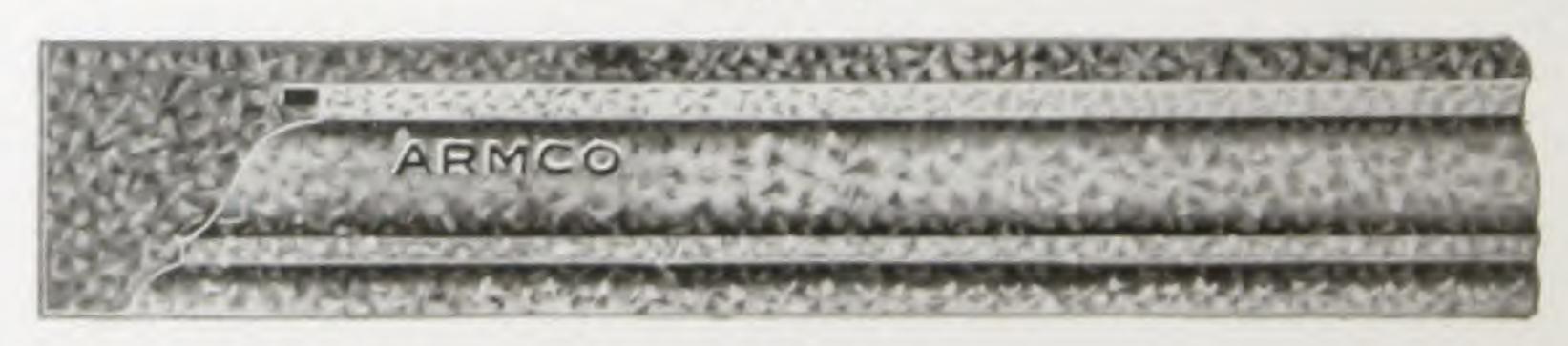
#### Style H



#### Sizes

Size	6 inches,	7 inches,	8 inches
Depth		434 inches,	5½ inches
Girt	14 inches,	16 inches,	18 inches

#### Style J

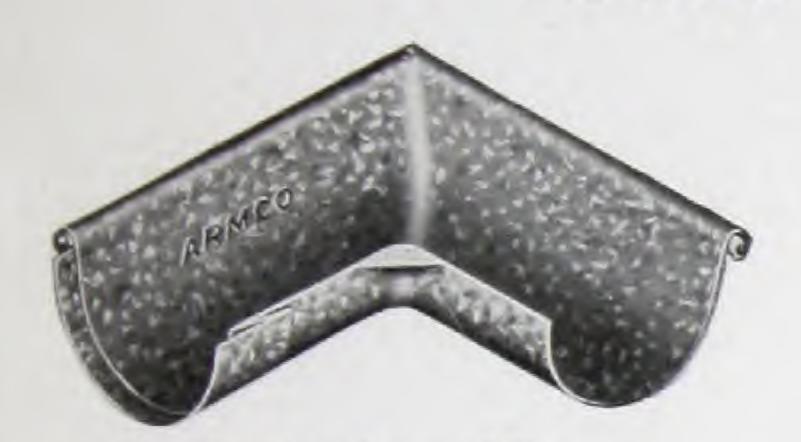


#### Sizes

Size	6	inches,	7	inches,	9 inches
Depth		inches,	61/2	inches,	8 inches
Girt	400	inches.	20	inches.	24 inches

We can furnish O. G. Gutter "Style J" with riveted stays and straps to hang, so that no extra hangers are needed.

## Armco Iron Mitres



Outside Corner Mitre.



Inside Corner Mitre.

These mitres are made complete, ready for use, both inside and outside bead, either slip or lap joint.

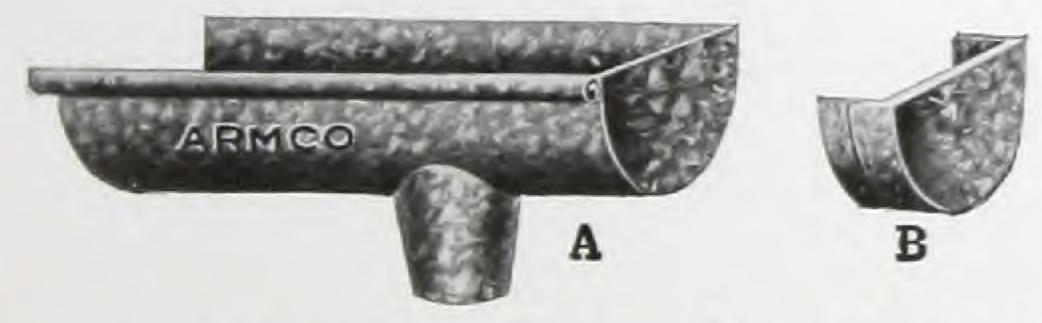
#### Sizes

No. 28 to 24 Galvanized Armco Iron.

LAP JO	DINT	SLIP JOINT			
3 -inch	6-inch	3 -inch	6-inch		
3½-inch	7-inch	3½-inch	7-inch		
4 -inch	8-inch	4 -inch	8-inch		
5 -inch		5 -inch			

When ordering slip joint mitres state to your dealer whether right or left-hand is wanted, and whether for "inner" or "outer" corner, otherwise half rights and half lefts, and half "inner" and half "outer" corner mitres will be shipped.

# Slip Joint Gutter End Sections, Slip Ends and Tubes



A shows a section of eaves trough, with tube and end soldered in. 12-inch section (A complete) can be furnished either lap or slip joint.

B shows a tube or outlet.

C shows slip joint end-piece. Can be used either right or left.

2 -inch 5-inch  $2\frac{1}{2}$ -inch 6-inch 3 -inch 7-inch  $3\frac{1}{2}$ -inch 8-inch 4 -inch

Gauges 28 to 24

# Wire Eaves Trough Hangers



These hangers are made with either double or single bead and double or triple twist galvanized wire.

No solder required.

Cheap, strong and reliable. Easily applied. Made of the best galvanized wire of suitable gauge, according to size.

For all sizes up to and including 6-inch we send ½-inch bead and for 7, 8 and 10-inch, 5%-inch bead, unless otherwise ordered.

### Sizes

3 -inch, ½-inch bead
3½-inch, ½-inch bead
4 -inch, ½-inch bead
4½-inch, ½-inch bead
5 -inch, ½-inch bead
6 -inch, ½-inch bead
7 -inch, ½-inch bead
8 -inch, ½-inch bead
8 -inch, ½-inch bead
10 -inch, ½-inch bead

The strongest and best wire hanger made.

## The Armco Ventilator

Patent Applied for.



Sectional View



Complete View

No building is complete without it. Storm-proof, with no back draft.

The Armco Ventilator is guaranteed to exhaust more cubic feet of air per minute than any other storm-proof ventilator made. Houses, school-houses, churches, mills, factories and foundries use them with perfect results. The smaller sizes are made of the best black ingot iron and then galvanized, thus leaving no raw or unprotected edges to rust.

An Armco Ventilator on the roof of your house, ventilating the attic, may seem an insignificant thing, but it will prove invaluable, as it will give you relief from the unhealthy condition of close and overheated rooms. It will also keep the atmosphere in your residence cool and refreshing during the hot summer months.

Sizes with capacity in square inches:

Copper ventilators quoted on application

Iron
Armco
Galvanized
Jo
Bands
without
WEIGHTS
OF
ABLE

	Number of Sheets	000000000000000000000000000000000000000		per Sheet	33 33 33 29 29 29 29 29 29 29 29 29 29 29 29 29
23	Weight of Bundle	154 154 155 157 158 158 158 158 158 158 158 158 158 158		Square	22.22.22.22.22.22.22.22.22.22.22.22.22.
	Weight stands to	5.37 5.37 5.37 5.37 5.37 6.91 6.92 6.93		Number of Sheets	679999999999999999999999999999999999999
-	of Sheets	08870877007700770744	30	Weight of Bundle	150 145 147 147 150 150 150 150 150 150 150 150 150 150
	Weight of Bundle	152 146 148 148 141 141 169 169 169		Weight of Sheets	7.87 8.53 9.19 9.84 9.19 1.37 1.37 5.31 5.31 6.41
22	eteets 10	87 287 337 60 60 60 60 61 61 53 75 12 12 13 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	-	Number of Sheets	71 21 21 21 21 21 21 21 21 21 21 21 21 21
_	of Sheets  Jugisht	88 7 7 9 2 9 2 9 2 9 9 9 9 9 9 9 9 9 9 9 9	29	Weight of Bundle	147 149 151 151 151 151 151 151 151 151 151 15
	Weight of Bundle	159 159 150 150 151 153 153 153 153 153 153 153		Weight of Sheets	88.62 0.06 0.06 0.06 0.06 0.06 0.06 0.06 0
21	Weight of Sheets	88.37 2.97 2.97 2.97 6.54 6.54 6.54 6.57 6.57 6.58 6.54 6.57 6.54 6.57 6.57 6.57 6.57 6.57 6.57 6.57 6.57	-	of Sheets	024214210210080088
_	Number of Sheets	87778778787878787878787878787878787878	28	Weight of Bundle	550 150 150 150 150 150 150 150 150 150
20	Weight of Bundle	159 149 149 159 159 159 166 166 166 166 166 166		steeds to	37 16 16 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18
	Weight of Sheets	19.87 21.53 22.13 23.19 24.84 25.11 25.19 26.5 36.91 37.12 38.7 38.7 38.64 41.41 49.69	-	of Sheets JugisW	2 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
-	Number of Sheets	-000040000040044044000	27	of Bundle	
	Weight of Bundle	152 153 153 153 153 153 153 153 153 153 153	1	Weight	2 152 154 154 155 155 155 155 155 155 155 155
19	ersede to			Weight steets	10 10 11 12 12 10 10 10 10 10 10 10 10 10 10 10 10 10
-	of Sheets TrigisW	2445881888888888888888888888888888888888		Number of Sheets	452102110080080800
	Weight of Bundle		26	Weight of Bundle	152 153 153 153 153 153 153 153 153 153 153
18		87 12 13 12 12 13 13 14 15 16 16 17 17 18 17 18 18 18 18 18 18 18 18 18 18 18 18 18		Weight of Sheets	10.87 11.78 11.78 12.69 13.74 14.8 15.86 19.03 19.03 19.63 19.63 21.75 19.63 21.75 21.75 21.75
-	eteets to	233333333333333333333333333333333333333	-	Number of Sheets	2111081108800880000
	Weight Weight		25	Weight of Bundle	148 159 159 159 154 148 148 158 158 158 158 158 158 158 158 158
17		28.87 31.28 33.69 35.09 36.09 36.09 36.48 36.48 37.75 50.53 50.53 50.53 50.14 50.16		Weight of Sheets	12.37 13.41 14.44 15.47 18.56 14.44 15.63 16.84 17.87 19.24 20.62 24.75 22.34 22.34 22.34 23.78
-	Number of Sheets			Number of Sheets	100000000000000000000000000000000000000
16	Weight sibnudle	159 143 143 159 159 159 159 159 159 159	24	Weight of Bundle	153 146 146 146 150 162 163 163 163 163
	Weight and Sheets	31.87 34.53 34.53 37.19 47.81 47.81 46.03 46.03 46.03 46.48 53.78 53.78 53.75 53.75 53.75 53.75	700	Weight of Sheets	13.87 15.03 16.19 17.34 20.23 20.81 18.88 20.23 20.23 22.23 23.12 23.12 25.04 25.04 25.04 25.04 25.04 25.04
GAUGES	Size of Sheet, Inches	24x 72 26x 72 26x 72 30x 72 36x 84 26x 84 26x 84 36x 84 36x 84 36x 84 36x 84 36x 96 36x 96 36x 96 36x 96 36x 96 36x 96 36x 120 26x 120 36x 120 36x 120	BAUGES	Size of Sheet,	4x 72 6x 72 8x 72 0x 72 6x 84 6x 84 6x 84 6x 84 6x 84 6x 84 6x 84 6x 96 6x 96 6x 96 6x 96 6x 96 6x 96 6x 96 6x 120 6x 120 6x 120 6x 120

# The U.S. Standard Gauge

For Armeo Iron Sheets and Plates

No. of Gauge	Thickness in Fractions of an Inch. Black	Thickness in Decimal Parts of an Inch, Black	Weight per Square Foot in On., Black	Weight per Square Foot in Ox., Galvanized
0000000	1-2	. 5	320	
000000	15-32	46875	300	
00000	7-16	-4373	280	
0000	13-32	-40625	260	
	3-8	375		
000	11-32	34375	220	
0	5-16	3125		
1	9-32	28125	180	
2	17-64	265625		
3	1-4	-25		
A	15-64	234375		
	7-32	31875	140	
- 6	13-64	203129	1.10	
	3-16	1875	120	
18	11-64	171875		
9	5-32	15625	190	
10	9-64	14062	9.0	
11.	1-6-	125	80	
12.	2-64	309375		
1.3	3-32	09375	1.90 96 80 70 60	
14	5-64	.078125	30	
15	9-128	0703135		
16	1-16	0629	40	
16	9-160	.05635		
1.60	1-20	- 0.5	45 40 36 52 28 24	
1.0	7-160	.04375	28	
20	3-80	0375		
-23	11-320	0.54.573		
22	1-32	.03123		
2.5	9-120	0.28135	1.6	
24	1-40			
	7-330	021872		
26	3 160	01875		
37	11-640	03:71.7873		
38	1-64	015625		
28 29 30	9-640	0140625		
310	1-80			

# Armeo Iron Sheets Black and Galvanized



#### Extreme Gauges and Sizes of Iron Box Annealed and Galvanized Stock

	48	44"	427	40-					
	168	1:68	168	168					
14	168	108		108	168		144		
1.6	168	7.08	168	168					
1.0	266	2-0-6		158			1.64		
20	120	130	120	108	244				
	120	120	120		546		144		
		1845	1:20		244				
25									
		96		- 120		244	244		
24 24 25 26 27		96	120		244		568	388	
			130						

# Some of the Products of Armco Iron

Advertising Signs Arches Ash Cans Auto Bodies Auto Mud Guards and Fenders Boiler Tubes Brick Pallets Bridge Flooring Cattle Guards Coal Chutes Coal and Wood Ranges Convertor Hoods Cornices Corrugated Culverts Dipping Vats Drain Pipes Eaves Troughs Electrical Transformer Tanks Enameled Ware Fence Posts Flashings Flumes Furnaces Garbage Cans Gas Containers Gasoline Tanks Gas Ranges Gutters Hay Stack Covers Hot Water Heaters Hot Water Pipes Ice Cans Irrigation Pipe

Metal Barrels Metal Cars—passenger, freight tank and mine Metal Lath Metal Shingles Metal Siding Metal Window Frames Milk Cans Motor Boats Oil Containers Orchard Heaters Portable Garages Petroleum Agitators Radiators Refrigerators Roofing Tin Septic Tanks Sheet Roofing Stand Pipes Smoke Stacks Silos Stoves Skylights Telephone Wire Telegraph Wire Terne Plate Third Rails Ventilators Wash Tubs Water Tanks Well Casing Wire Fencing Window Screen Frames

When first produced, Armco Iron was called by us American Ingot Iron and it is still widely known by that name. The name was so long we decided to shorten it. We chose the name "Armco" as being made up from the first letters in our company's name—A-merican R-olling M-ill CO.

You can get American Ingot Iron Roofing from your dealer, but be sure to watch for the Armco trade-mark on every piece. It is your one guaranty that you are getting the purest iron—the iron that resists rust.

If you have difficulty in getting any Armco products, write us and send your dealer's name and address. We will see that you are supplied.

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